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Editorials

THE ANTI-VACCINATION MOVEMENT

THIS journal agrees with Dr. Chas. J. Hastings, M.O.H. for Toronto, when he holds that the gross misrepresentation of facts in this connection with the discussion on vaccination by those opposed to it and for the purpose of discrediting vaccination might be looked upon, in the light of modern knowledge on this subject, as a huge joke, if it were not for the tragedy of it. He further says these people are not taken seriously by the intelligent. In this statement we do not entirely agree with our respected M.O.H. During the recent epidemic the writer has come in contact with a number of intelligent people who have been influenced adversely to vaccination by the vaporings of these ignoramuses. The Toronto M.O.H. needed to make no apology for his report endorsing vaccination. Every physician in the province should read this document. It is to be hoped the

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Provincial M.O.H. (if he has not done so) will issue a similar manifesto to the profession in the province. Such articles should have the widest publicity. Dr. Hastings rightly says the present outbreak of smallpox has revealed a lamentable lack of knowledge, in a certain group of our population at least, as regards vaccination, which in the light of present knowledge is incomprehensible. Previous to this (he goes on to say) one felt justified in concluding that if these people would have even read intelligently the newspaper reports during the late war, they could not have failed to recognize the value of vaccination.

But so it has been, is, and always will be—a number of incredulous, fanatical, ignorant individuals, who require squelching—to whom the line upon line and precept upon precept makes little or no impression. We hope our worthy Toronto M.O.H. will remember the story of the pups and the moon; and that, although it was once considered a miracle for asses to speak, it is not so now.

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OCULISTS AND OPTICIANS

THERE is no organ in the body so wonderful or so intricately constructed as the eye. Not only does it suffer from neglect or injury of itself, but it reflects the diseases of other organs of the body, including the liver and kidneys. It is quite easy for a physician and those associated with him, whether his family, his intimate friend, or his staff of nurses, to under-

stand, then, that, when one has a "sick" pair of eyes, one must go to a doctor, and not only to one who has a general training in medicine, but has made by years of patient, monotonous grind, a special study of these delicate organs, one who brings to bear on the case, not only his knowledge of the eyeball alone, but of all the other parts of the body that can affect it. Unfortunately, the common people do not know the interrelation of the eyes and the rest of the body. They consider them somewhat in the light of *marbles*, dissociated from the human frame, until they have spent years of suffering from badly made glasses. They go to be "fitted" for glasses as for a hat or a suit of clothes. The public school system, however, is working wonders for the people by means of its clinics, getting the cases in an incipient stage, and forewarning others before they grow ill. To remedy present conditions *promptly*, one might reach the masses through lay journals, warning them not to place their eyesight in the care of any but oculists? Just as long as advertisements are published people will rush to miscellaneous places to get such work done, surprising though it may seem, since these same folks are the very mechanics or skilled artisans who growl because an occasional wholesale house in their line is taking their work from them, knowing and specifying that the work of such a house does not show the nice adjustment that the skilled laborer can produce in his individual workshop. The common people do not grasp the distinction between "oculist" and "optician," and it

was a temptation too great to be denied by some of the latter to learn a little " refraction " and get a hurry-up diploma to hang in the shop.

To be on the safe side the " optician " should confine his work solely to grinding lenses on a formula prescribed by a physician who has examined the eyes from all viewpoints. True, there are some people who have no astigmatism or other lesion, except a slight equal hyperopia or myopia that anyone could aid from a case of spectacles, without diplomas or dark rooms. But that is not being an optician, any more than is the elderly man who, hearing of the death of a widow of his own age, went to her house immediately and bought her spectacles, placed them on his nose and wore them " ever after," saying he could see splendidly now.

The oculist or ophthalmologist, of course, does not grind lenses at all, but, being thoroughly versed in the anatomy and diseases of the eye, and adept in the handling of the ophthalmoscope, etc., he can tell to a nicety how many degrees of astigmatism in any or every part of each eye, just as easily as he can do an iridectomy or an operation for strabismus. He is to the optician what the architect is to the contractor. Now, if the architect says to the owner, " I want mahogany for that show window, split and matched to make panels that will be very effective, and your contractor knows just where to get the very goods," what will happen if the owner sends in an easy telephone order to a wholesale shop and does not secure any personal attention in selection?

All discerning people know that the gains in time, through concentration, are not wiped out by wholesale work in certain staple goods, but there departmental work must stop, to be right. The best skilled labor is produced by individuals; each with tools fitted to his hand, and working in his familiar workshop with its unique " atmosphere."

When a physician writes a prescription for glasses he first consults his patient, and then sends him to an optician who is ethical and reliable and who only grinds lenses. He can easily specify on the prescription blank, " To be made by Mr. So-and-So."

Otherwise it will be a case of " dog eat dog." The ethical opticians will throw their principles to the winds, and to make a living, which will then be difficult on account of competing with the wholesalers, add refraction to their lens-grinding. Every man to his own trade.

CHRISTIAN SCIENCE

CO-INCIDENT with the campaign for new medical legislation in the Province of Ontario and the investigation of the Hodgins Commission, our contemporary, *The Lancet* drew blood, when it attacked the various fakes of osteopathy, chiropractic, Christian Science. Dr. Ferguson's articles were timely and proved very informative to our profession, few of whose members have ever seen or read *Science and Health* and scarce knew the difference between an osteopath and a chiropractor.

Cabot, of Boston, a few years ago, stated that inso-far as his own researches went he had not found one Christian science "cure" of cancer, consumption, or of any organic disease; but that most of them were due to suggestion. B. O. Flower in *The Arena* of June, 1919, and the November number of 1908, reported cases of cancer, blastomycetes, traumatic disease of the knee-joint, drug addiction, tuberculosis of the hip, kidney trouble (?), headache, failing sight, etc., in which following failure of any of the regular school to cure, they were cured by Christian science.

In reading over these cases one is impressed (1) that the underlying cause and basic condition (the pathology) of certain of the cases (e.g.) the kidney case and the headache case, were not ascertained; (2) that the patient with blastomycetes was improving before going to California, and that the climate there may be in part responsible for the cure. That, as Cabot noted in the "cures" he investigated suggestion played a considerable part.

When Ambrose Pare, the great surgeon of the Napoleonic wars—the first to ligate blood vessels, a very successful practitioner—used to be congratulated on effecting a cure in any particular case he always replied: "I tended him; God healed him."

It must be admitted that cures of certain organic diseases do take place—without medication, without suggestion (so far as we know). Certain tumors—sarcomata, carcinomata, (by dieting, suggests Bulkley) disappear. Pneumonia, typhoid, most of the

exanthemata, and many other diseases run their natural course and are cured by the *vis medicatrix naturae.* Every old practitioner agrees with the epigram of O. W. Holmes, that when the young practitioner commences practice he has twenty drugs for every disease, but after twenty years practice he has one drug for twenty diseases.

The rise of Christian science has stimulated the study of psychotherapy; and the rise of osteopathy to the necessity for teaching mechanotherapy and physiotherapy in our medical schools.

They have proven that too many of our regular practitioners are weak on diagnosis and weak on some lines of treatment. In so far they have been blessings in disguise.

STILL FURTHER ADDITIONS TO OUR EDITORIAL ROSTRUM

WE take great pleasure in announcing to our readers that our Editorial Staff has been still further strengthened by the addition of Dr. J. G. Fitzgerald, Professor of Hygiene, University of Toronto, and Director of The Connaught Laboratories, and Dr. Robin Pearse, assistant, Department of Urology, University of Toronto.

These gentlemen are too well known to the profession to need any introduction. We welcome them into the fold and know that during 1920 the pages of *The Journal* will be materially added to in literary value by their having joined forces with us.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., **must be** in our hands by the first of the month previous to publication.

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Original Contributions

HOW THE HEALTH OF THE BRITISH ARMY IS MAINTAINED

By Colonel George G. Nasmith, C.M.G.

Director of Laboratories, Department of Health, Toronto. Formerly Advisor in Sanitation, etc., with First Canadian Contingent, and for Eighteen Months Officer commanding the Canadian Mobile Laboratory in France.

The history of war has always been a history of epidemics. The very fact that in an army men are crowded together makes it easy for all communicable diseases, once introduced, to spread with great rapidity. And because soldiers are always associated with the civilian population, it means that such diseases are rapidly communicated from the army to the civilians; and from the civilians to the army. It is therefore apparent that during the war, disease, unless checked quickly, may run like wildfire through a country, and be disseminated far and wide by soldiers returning to their own homes, or other places while on leave.

It is necessary first to understand the nature of the medical organization of the British Army, and this will be better understood perhaps by following a wounded or sick soldier through the system from the front line to the base hospital.

The medical officer of a battalion has his regimental aid post somewhere close to the front line, in a cellar or dugout, but usually in the trench itself. Each day he holds a sick parade and men who are, or imagine they are, sick, come to him for advice and treatment. Working under the M. O. of the battalion are the regimental stretcher-bearers who bring in the wounded. Soldiers who are only slightly wounded, or are not too sick, after being given suitable treatment by the M. O., make their way back to the advanced dressing station.

This advanced dressing station is really an advanced section of the field ambulance, and is manned by officers from the field ambulance, who also have under them a squad of stretcher-bearers. The dressing station is usually located in some battered farmhouse, cellar or dugout, on or near a road and within a mile or so of the trenches.

This enables the stretcher-bearers from the advanced dressing station to bring in those unable to walk from the trenches; it makes it possible also to evacuate at night by motor ambulance, the sick and wounded collected during the day. Very frequently also, narrow gauge railroads are used for the purpose of rapidly bringing in the wounded to the advanced dressing stations.

From the advanced dressing station the sick or wounded soldier, after any necessary preliminary attention, is taken to the field ambulance which is usually located in some large building three or four miles behind the line, where he is further attended to, ticketed with his diagnosis, given antitetanic serum if he has not already had it, and sent on by motor ambulance convoy to the casualty clearing station.

At the casualty clearing station, of which there are usually three or more together in a town, the men are again gone over, their wounds redressed, operations performed, and all the work of a hospital carried on. The towns in which the C. C. S.'s are located are situated usually out of practical gun range, on railroads and frequently on canals, so that the wounded may be readily evacuated by train or barge to the base. These casualty clearing stations are arranged in groups, so that when a battle is raging one hospital receives the wounded until completely filled up, while the other hospitals, which were filled perhaps the day before, are treating their wounded and evacuating them to the base.

The General or Base Hospitals are located scores of miles to the rear; on the seacoast where facilities are provided through hospital ships for the evacuation of the sick and wounded to England.

In addition to these medical units mentioned above, there are rest stations or convalescent homes behind the lines, where tired, "fed-up," and mildly shell-shocked men and officers are looked after and allowed to rest until fit to return to duty.

It is also necessary to realize that in the temperate climate of Europe the vast majority of communicable diseases of importance from the military standpoint are contracted largely from three sources:

Group 1. Directly from throat and nose secretions; this includes practically all of the ordinary diseases like measles, mumps, whooping-cough, influenza, colds, pneumonia, scarlet fever, diphtheria, etc.

Group 2. Directly from biting insects; e.g., malaria, typhus fever, plague, etc.

Group 3. Indirectly through intestinal secretions containing the germs of typhoid fever, cholera, dysentery, etc., gaining access to the body through contaminated water, food and flies.

With this outline in mind it is easy to see that it is possible for such diseases to be held in check, provided that the sanitary and medical organization is such that the germs from one infected soldier can be prevented from reaching another.

It is obviously essential in the first place to remove from the army, at the earliest possible moment, every case of communicable disease after it has been diagnosed. This means that there must be some means for picking out soldiers who show symptoms of disease, which really comes down to the fact that medical officers must always be on the alert and carry out the instructions of the director of medical services of the army, with despatch; in the British Army this is one of the very important features in the control of epidemics. If a man is suspected of having any communicable disease he is instantly placed under quarantine until the diagnosis has been confirmed, after which he is removed from the army area altogether, as a possible focus of infection.

This method is practically the only means of eliminating diseases such as measles and scarlet fever, which cannot be diagnosed by bacteriological methods, but, of course, the procedure is employed in all other kinds of communicable disease.

Great Britain has been fortunate above all other nations in this respect, that she sent over at first a small army of regular troops, perfectly equipped from the medical standpoint, as well as in every other way. Efforts had been made for years to remove typhoid "carriers" from the regular army, and natur-

ally no soldier was sent into the field who was known to have, or to be a "carrier" of, any contagious disease. Furthermore, the soldiers had practically all been vaccinated against smallpox and inoculated against typhoid fever.

As division after division was sent out to the army in France, they, too, were completely equipped with sanitary squads, casualty clearing stations, field ambulances, water carts, and other necessary medical equipment. Consequently as the army grew and expanded into a huge force it was thoroughly equipped, not only with the necessary apparatus for caring for the sick and wounded, but also with the experience acquired by those already in the field. In this way the British Army differed from all our European Allies which had been compelled to mobilize everything at once and found themselves woefully lacking in medical equipment and personnel.

It can be readily seen that the British Army began under auspicious circumstances, and that thereafter its freedom from contagious diseases depended to a great extent on the preventative measures adopted.

All excreta behind the front line and reserve trenches is destroyed in numerous incinerators which are kept burning night and day. The British Army is the only army which has succeeded in doing this. All other excreta which cannot be burned is buried so that it cannot be reached by flies.

It is the rule to sterilize all water used for drinking purposes, either by boiling, by bisulphate of soda, or by chlorine. The method of chlorinating water on a small scale in general use in the army, as it is in all of the other allied armies, was brought to the attention of the British Army authorities by the publication of a method evolved by the writer in 1909. This was particularly useful in the trenches where it was possible to accurately sterilize a pail or a barrel of water if necessary. Small tablets of hypochlorite of lime, each one sufficient to sterilize a pail of water, were also ordered and issued to the first Canadian division, and proved useful.

The great bulk of the water supply, however, is sterilized directly in the water carts by adding one or two teaspoonfuls of the dry chloride of lime to the partly filled water cart, the mixing being done by the addition of the rest of the water and

by the agitation during the trip back to the place where the cart is stationed.

In addition to this, large mobile filter units, after a plan draughted in 1914 and officially suggested by the writer in 1915, after experience in the field, were adopted throughout all the British armies. The mobile filters are capable of filtering and sterilizing large quantities of water and delivering it to water carts or into standpipes, ready to drink. A check is kept on the efficiency of the filtration by mobile field laboratories.

In each division there are some sixty water carts, each of which holds about 110 gallons. We attempted to get samples from all of these in turn, to see whether the water had been treated. As all the sources of water supply in Flanders, with few exceptions, contain large numbers of bacteria, and as a properly chlorinated water contains very few bacteria, it was easy to tell from the bacteria and B. coli tests whether the water in the carts had been chlorinated; and these simple tests were adopted as a routine method of control. As we sometimes had eight divisions in our area at one time, this water control meant a good deal of work. The water carts were usually to be found at the headquarters of the unit to which they belonged, and we quickly discovered that the way to get the largest number of water samples in the shortest time was to travel by the map up and down the twisting narrow roads.

Reports of all samples were sent to the A. D. M. S. of the division, who forwarded them to the medical officers of the units, with more or less caustic remarks, should samples be bad. The M. O. in turn would get after the man in charge of the water cart, who usually had some more or less plausible excuse. The water details of the first Canadian division were the best trained lot of men we ever ran across. The very first day we took samples from their water carts, five weeks after the arrival of the Canadian division in France, they were all sterile, and there were no complaints about taste. It was an excellent example of what training could accomplish, for they all had been carefully trained in their duties in Canada and England. As the water details of any division are constantly changing, the efficiency of the treatment depended to a great extent on the con-

stant supervision of the problem by the A. D. M. S., medical and sanitary officers.

We have found divisions coming into our area for the first time with only 25 per cent. of their water carts chlorinated, whereas before they left they would have 90 per cent. or more chlorinated, and the division thoroughly educated as to the necessity of carrying out this process of sterilization properly.

Wells, springs, creeks and ponds were also examined, and not infrequently samples from "springs" encountered while digging new trenches were sent in to be tested. The tremendous number of bacteria found in some of these "spring" samples we have on several occasions reported as indicating the presence of some buried animal matter in the immediate vicinity of the springs, and have resulted in finding these surmises to be correct. In one case in which a badly polluted water was reported upon, the burial place of some fifty Germans was found to be only a few feet distant.

Standing orders forbid the use of unboiled milk in the army, as well as uncooked vegetables, so that there is little danger from these sources. When one sees the peasants watering their vegetables with fresh house sewage, the reasons for such regulations are apparent.

As it is possible for flies to carry typhoid bacilli and other disease germs from excreta to food, a constant war is waged against these filthy insects, and it is the duty of everybody concerned to see that all manure piles in the army area are gotten rid of. On the other hand, food is screened from flies whenever possible, and privy pits made inaccessible to them by the same means. On the whole, the house-fly has not yet, in so far as we know, played any great part in causing epidemic disease in the British Army, though both the house-fly and lice have been accused of carrying the organisms responsible for trench fever.

Mosquitoes are responsible for transmitting malaria and yellow fever, though the latter never occurs in Europe. Malaria in France is also comparatively unknown, though we find the anopheles mosquito responsible for transmitting this disease, everywhere.

There were also numerous cases of malaria recurring in

soldiers from India, Egypt, and other hot countries, so that we had both the infected individual with the malaria parasite in his blood, and the mosquito which was capable of carrying the organisms. Yet in 1915 we only had a dozen cases of malaria develop in men who had never been out of England, and were, therefore, presumably, infected in France.

Typhus fever is one of the most dreaded diseases in the army. As yet there have been no cases of typhus fever in the British army in France, though it has occurred to a greater or less extent in Germany, Austria, Russia and Serbia. The quarantine services of the countries bordering on the Mediterranean have prevented it spreading to any other country through ships.

Typhus fever is known as a dirt disease, and its control is through the plentiful use of soap and water.

As every soldier in the field becomes more or less lousy, a persistent and continuous fight against this variety of vermin must be kept up, for lice are not only a potential source of danger in transmitting typhus fever and relapsing fever, but they are a great source of irritation to the men and responsible for much loss of sleep.

Hot baths are provided on every divisional area on the British front. Three or four miles behind the trenches in the rest areas, in places where a plentiful supply of water can be obtained, the army has established bathhouses. Sometimes a brewery, or part of it, has been taken over for this purpose, because the breweries all have deep wells from which a plentiful supply of water can be obtained. If the bathhouse is in a brewery they may utilize the large beer barrels cut in two for baths. These are filled with cold water and live steam turned into the water to warm it for the men's baths. After the bath the men dump the barrels, which are immediately refilled by the attendants, for the next lot.

Most of the bathhouses, however, are in shacks built upon the edges of creeks or ponds. The water is pumped into an elevated reservoir and heated, frequently by means of a threshing machine boiler rented or purchased from some neighboring farmer. One section of the shack is divided off for a bathroom with a number of showers, and the other rooms devoted to the

receiving of dirty clothing, storing of clean clothing, washing, drying, and sterilizing.

The waste wash water from the baths and laundry entering the creeks naturally causes trouble for troops downstream who have to use it for any purpose. Horses particularly will not touch soapy water, and the brewers object to making beer with it; they say it spoils the beer.

Consequently the sanitary officers have in many cases been compelled to put in tanks to treat this dirty water and purify it. This is usually done by adding an excess of chloride of lime, which precipitates the soap as a curd, carrying the dirt down with it. By sedimentation, and filtration through canvas, cinders and sand, the water is clarified and turned into the creeks again clean. Here the laboratory proved to be quite useful in helping the sanitary officer and engineer work out their methods of purification.

By getting rid of cases of intestinal disease, "carriers" of intestinal disease, by destruction of excreta and garbage, screening of food, destruction of breeding places of flies, sterilization of drinking water, boiling of milk and vegetables, and in the case of typhoid and paratyphoid fevers, inoculation, the chances of intestinal disease germs getting through from one person to another are comparatively small, as the results indicate.

To show that the freedom from intestinal disease in the British Army is not due to accident, one example will serve to demonstrate. Early in the war, when the British took over from the French a section of the line in the Ypres salient, the Belgian population in the little village of Vlamertinge and neighborhood was being devastated with typhoid fever, and the French troops also had a good many cases. When the British troops took over the line they not only escaped getting typhoid fever themselves, but they succeeded in absolutely stamping it out from among the civilian population, and in getting rid of any "carriers" of the disease.

These cases were discovered by a house-to-house investigation by "The Friends' Search Party"—a group of Quakers who had conscientious scruples against bloodshed. This search party notified the medical authorities, particularly the laboratory in

the area, of any doubtful cases, and the diagnosis was then made where possible by laboratory methods. In the last six months of my stay in France, near the Belgian border, I do not think that the Friends' Search Party unearthed a single case of typhoid fever, and as a matter of fact few cases of the ordinary epidemic cases such as measles or diphtheria were discovered, although the party continued to make house-to-house investigations and report to us regularly.

All of the bacteriological and hygiene work for the various ambulances, casualty clearing stations, rest stations, medical officers, sanitary officers and even veterinary officers in the area is done by the laboratory.

From this sketch of the organization of the medical service, its arrangement, the diseases which must be controlled and the sanitary methods in use, it may be seen how and why a laboratory can well fit into the system.

The mobile laboratories are usually established near a group of casualty clearing stations, for which they do the necessary clinical laboratory work as well as bacteriological work. In connection with each group of casualty clearing stations there is usually one section of one casualty clearing station used as an isolation hospital, to which are diverted all the cases or suspected cases of contagious disease. Naturally the laboratory is called upon to confirm the diagnoses made in such cases.

Most of the routine bacteriological work of the laboratory is of much the same nature as that of a health laboratory at home, and consists of examinations to detect cases or carriers of the ordinary communicable diseases such as diphtheria, cerebro-spinal meningitis, typhoid fever, malaria, dysentery, tuberculosis and venereal diseases.

Should a case of diphtheria for example be found in a soldier, all of his immediate friends and companions with whom he had been in contact would be swabbed to see whether they were infected. Those found to be infected would be removed from the army at once.

In a case of suspected typhoid fever, the examinations of serum, blood and excreta would be made. If found to be a case

of typhoid fever the laboratory would be called upon to try to discover the source of the infection. The same general methods hold in other epidemic diseases where a laboratory is capable of making the diagnosis, to discover whether danger lurks in "contacts" or "carriers" and to find the source of the infection where possible.

Very frequently material from wounds is sent in by the hospital surgeons, to see whether wounds are infected. The soil of Flanders has been liberally manured for hundreds of years, and in every cubic yard of this manured soil there are apparently millions of the germs which cause gas gangrene and tetanus when introduced beneath the skin. If a wound is infected with the germ causing gas gangrene or with other dangerous organisms, the knowledge that they are present may materially modify the treatment used by the surgeon, and the laboratory is sometimes of value to him in determining that point.

The varied nature of laboratory work in the army and its practical application may perhaps be better appreciated from some typical examples.

One day the officer commanding a hospital sent to us a pint of tea suspected of poisoning 28 out of 29 men who drank it. From the history of the affair we did not believe that the tea could possibly be the cause, and after making a few rapid tests to exclude metals we proved that the tea was not poisonous by the simple practical test of drinking it—Major Rankin being the official tester. The report of our physiological test rather astonished the British authorities.

A German gas mask found on the battlefield was submitted to us to find what chemicals were present. That mistakes were sometimes made by the Germans was quite evident when we found that the mask had not been treated with chemicals at all; some of the Huns at least had been unprepared for a gas attack.

The clarifying apparatus connections of the water carts frequently broke in certain definite places. Recommendations were made by our laboratory, after experimentation with rubber instead of rigid connections, which resulted in all of the carts in the British Army being equipped with rubber connections, and consequently in improved efficiency.

A great deal of experimental work was done with chlorine

gas and the efficiency of gas helmets. Experimental physiological and pathological work was done on animals with chlorine and other gases; work on the drying out and deterioration of gas helmets, and the chemicals used in them, was also carried out.

Quite a number of cases of nephritis occurred among soldiers, and arsenic was suggested as a possible cause. We were therefore asked to examine a considerable number of samples of wine and beer to see whether traces of arsenic were present or not. None was found. A large quantity of wine found to be diluted with ditch water, and sold to our soldiers, was destroyed and the vendors fined.

One day a young medical officer, so excited that he could hardly speak, rushed into the laboratory with a lot of dead fish. After some questioning we found that there were tens of thousands of dead fish in the Aire-La Bassee Canal, and as this ran through the German lines he suspected that the canal water had been poisoned. We told him that we thought the fish had probably died from asphyxiation as a result of organic matter being dumped into the stream. He went away unconvinced, but returned later in the day to report that he had discovered that the fish in the canal died every year when a certain distillery dumped certain waste material into the canal. Thus did our old experiences with starch mills dumping their waste into Ontario streams, and killing fish, prove of unexpected use.

The laboratory was used a great deal by the highly trained officers of the Indian Medical Service, who were always wanting some unusual insect or parasite identified, and made a good deal of use of our little working library.

A soldier died suddenly one day without any preliminary symptoms. It was thought that it might be due to poison, and if a case of suicide his wife would have been deprived of her pension. We were asked to examine the stomach contents to decide whether poison was present or not, but no poison was found.

A little vial found beside a dead German and containing a small amount of material was sent in for us to determine the nature of the contents. It proved to be opium, and the owner had evidentlly been prepared for a painless passage across the Styx whenever such necessity should arise.

Occasionally we had to investigate possible causes of cholera among troops coming from India. One day we received a long telegram to proceed to a certain village about ten miles away and report on the sanitary surroundings and particularly on the water supply of a place where an old Frenchman had died of "choleric dysentery." We found the house after some search and discovered that the old man had died a month before, and that the suspected water supply, unboiled, had been used since that time, by a certain headquarters' staff—without ill effects. Needless to say this was the best proof obtainable that the water supply was safe.

Another unusual problem arose out of the fact that several soldiers had contracted anthrax, both in England and in France, and the shaving brushes issued were suspected of being the cause. We undertook to search for anthrax spores, but found it was too long and tedious a job for a field laboratory, for the brushes were full of spores of all kinds. Later on in England anthrax was actually found in some of these brushes, according to reports since published.

These few examples taken at random will serve to demonstrate the varied character of the work of a field laboratory, and to show that a certain amount of experience is necessary in order to effectively handle some of the problems constantly arising. We were peculiarly fortunate in our combined experience. Major Rankin, a first-rate pathologist and bacteriologist, had been in charge of the government laboratory at Siam for five years previous to the war, and knew tropical medicine like a book, while Captain Ellis had worked for three years in the Rockefeller hospital laboratories in New York, and was thoroughly conversant with recent work in serum diagnosis and therapy. Consequently between the three of us there was little we could not tackle, either in bacteriology, pathology, sanitation or treatment of epidemic disease.

Whenever an action was about to occur on the front the hospitals were evacuated of all sick and wounded in order to obtain the maximum number of beds. Consequently when fighting was going on the hospitals were very busy with surgical cases, but the laboratory routine greatly decreased because there

were few sick. We therefore undertook investigations of various kinds, to keep busy and be of the greatest amount of use.

At the suggestion of the D. M. S. of the army, Major Rankin made a survey of the army area for anopheles mosquitoes. The Indian corps was in our area at the time, and he obtained the co-operation of the officers of the Indian medical service, who, being particularly keen on biting insects, collected many specimens for him. In spite of the anopheles mosquito being found everywhere, Major Rankin reported that he did not believe there would be much malaria, and such proved to be the case. Major Rankin also made an extended investigation with one of the physicians of a C. C. S. into the cause of trench fever, and although the results were largely of a negative character, it cleared the ground for other workers along the same line.

Captain Ellis began an investigation into the grouping of the various strains of "meningococci"—with the ultimate object of obtaining a more potent anti-serum in the treatment of cerebro-spinal meningitis. He also carried on work relative to the cause of trench nephritis.

Apparatus designed to purify wash water from baths before turning it into the streams, the building of small chlorinating plants near the trenches, and the construction of field incinerators for consuming garbage, were referred to us for consideration and suggestions, so that we had a variety of sanitary work of an interesting and useful kind, which helped to keep us busy.

The nature of our activities carried us through the area of shell fire, among the batteries, and sometimes quite close to the trenches. We were more or less free lances, and in travelling about in the course of our work we saw everything in one sense, more or less from the spectator's standpoint.

Many sad and depressing sights were witnessed, and one got an impression of what war means to an invaded country, such as can only be attained by actual experience. Quite frequently refugees were crowded together with their countrymen who had given them shelter, with disastrous results.

Accompanied by the sanitary officer of the 19th division, one morning, I saw a very sad example of what ignorance of the laws of hygiene can bring about. Down on a swampy spot, on a branch of the canal, was a little hamlet, and one of the tiny

houses was occupied by a family of refugees from La Bassee. When we entered the house, swarms of flies flew up from the table and buzzed about while we did our best to prevent them from settling upon us.

The father of the family was in bed, unconscious, with typhoid fever. The mother, dead from the disease, had been buried the day before.

During the funeral the eldest daughter, a pretty girl of sixteen, sat up in a chair trying to look after the visitors. When we called she was also in bed delirious with the disease in the same room as her father. The baby in the carriage had had typhoid fever. A little two-year-old boy was just recovering, and was thought to have been the original case. The other boys of seven and nine years of age were getting some bread and milk for their dinner, one of them being probably a mild case; and a girl of eleven, evidently coming down with the disease, was going about looking after the household. With that swarm of flies in the house there was no possibility of any of them escaping infection. It was with the greatest difficulty that the sanitary officer of the division succeeded in getting the cases removed to the French civilian hospital. The father died a week later, and the sanitary officer himself was subsequently killed during the battle of the Somme.

The best indication of the efficiency of the medical service of any army after all is its record of cases and deaths from preventable causes. The record of the British Army in France from this standpoint is a remarkable one, and a magnificent example of what applied bacteriology, sanitation and hygiene have been able to accomplish.

VENEREAL DISEASES AS COMMUNICABLE DISEASES

By Maurice M. Seymour, M.D., D.P.H.,
Commissioner of Public Health for Province of Saskatchewan.

In 1915 it was estimated that in one European army a number of soldiers equal to sixty divisions was ineffective on account of venereal diseases, and the fact that 30,000 men have already been found to be suffering from venereal diseases in the United

States Army, so recently entering the war, is sufficient demonstration that the problem is one deserving of immediate and serious attention.

Investigation has proved that a large proportion of venereal infections occur before enlistment and that, therefore, the incidence among the civil population is very high. In the Army, methods of controlling infection under strict discipline can be made efficacious in reducing the incidence, but, unfortunately, in civil life the problem is much more difficult to deal with. The public is now, however, awakening to the seriousness of this great civilian problem and all public bodies are concerning themselves with regard to ways and means.

The lack of authentic information on the prevalence of these diseases has been found to be a great obstacle in the study of the problem.

In the words of Dr. Gordon Bates, who discovered, when attempting to get statistics, that 12% of patients in general wards in Toronto General Hospital gave a positive Wassermann reaction:—

"One cannot but feel that in regard to these subjects we are hampered by our ignorance of both their extent and seriousness; I am unable to find any extensive Canadian statistics as to the prevalence of prostitution, and only lately has the work of a few investigators using the Wassermann reaction given us the idea that in dealing with venereal diseases we are attempting to solve a problem of extreme gravity."

The necessity for measures for reducing the incidence in civil life is therefore apparent.

Syphilis.

Syphilis is a specific communicable disease caused by a definite organism called "Spirocheta Pallida," or "Treponema Pallidum."

The disease is conveyed from an infected to a healthy person by actual contact, through the means of infected objects, or it may be transmitted to offspring through one or both parents, when it is known as "hereditary syphilis."

Syphilis runs a chronic course of indefinite duration; its manifestations, although following a more or less regular order,

are intermittent in character and consist of numerous symptoms or lesions, which may, under different forms and degrees of gravity, affect any tissue or part of the body.

Etiology.

Shaudinn, in collaboration with Hoffmann, made the very important announcement in 1905 of the discovery of a spiral organism, which they had constantly found in syphilitic lesions, and which from its pale appearance, low refraction and spiral shape, was named the "spirocheta pallida" and later the "treponema pallidum."

The standard association of the spirocheta pallida with syphilitic manifestations led to its being generally accepted as a specific cause of the disease; but proof of this fact has since been supplied by Noguchi, who in 1911 and 1912 succeeded in obtaining pure cultures of the treponema pallidum, which when inoculated into experimental rabbits, produced in due time lesions characteristic of syphilis and containing numerous treponema. Inoculation of cultures in monkeys was also followed by local manifestations presenting the appearance of the initial sores in man, by using material of human origin. Additional evidence was procured by the blood of monkeys giving a positive Wassermann reaction, which had been inoculated with pure cultures obtained from human lesions, thus demonstrating the relations of the treponema pallidum to the serum test and also to the similar character presented by the cultivated strains with the species existing in the human syphilitic lesions.

The majority of authorities class the treponema among the protozoa.

The treponema pallidum is a fine, tenuous, spiral organism varying from ten to twenty-six microns in length, and of almost immeasurable thickness, one-quarter to one-half micron; it presents a number of deep, well-accentuated regular spirals, and finely-pointed extremities; it moves to and fro by rotation on its axis, and retains its spiral form while in motion. It requires to be differentiated from:

the spirocheta refringens,
spirocheta micro-dentium,
spirocheta macro-dentium, and
spirocheta buccalis.

The treponema pallidum has been found in practically all the lesions of acquired syphilis and in all its stages. It is most abundant in the primary sore, and is also found in the lesions in the secondary stage, although with more difficulty; it is present in the blood and lymphatics; it is found in the organic lesions of the tertiary stage, notably in aortitis, as well as in gummata, tabes and paresis. It is present in the lesions of early and late hereditary syphilis, being especially abundant in the organic lesions of children dying of congenital syphilis, particularly in the liver.

The presence of the organism in the initial sores, establishes, without any doubt, the diagnosis of syphilis, and indicates the need of immediate specific treatment without having to wait, as formerly, for the appearance of the secondary symptoms. Hoffman's method of aspirating an enlarged gland in the groin or elsewhere is a convenient method when the treponema cannot be demonstrated in the ordinary lesions.

The life cycle of the treponema pallidum is not yet determined. The work of MacDonagh (*Lancet,* October, 1912), and Ross (*Br. Med. Journal,* December 14th, 1912) show that the spirochetal form of the parasite is but a single stage in the development of the organism, and that apparently the cycle begins with the entrance of granular or spore-like bodies into mononuclear cells. From these granules (termed inclusion bodies, by Ross), short, wavy, filamental processes develop, which ultimately grow into spirocheta. Noguchi has also observed granules in cultures from which the same filamental bodies develop.

MacDonagh believes infection is probably conveyed by these sporozoites or infected granules and not in the spirochetal stage. This seems to be confirmed by the period of incubation required after infection, during which time the parasite undergoes its development. It would further explain the failure of salvarsan or mercury to completely sterilize the infected individual, although both are fatal to the spirochetal form and also the recurrences and later manifestations of the disease resulting from the subsequent development of these resistant granules or spores. The presence of these resistant granules may also account for some examples of contagion from infected objects, because

the spirocheta themselves are extremely delicate, anaerobic organisms that do not survive dessication.

Pathology.

Syphilitic lesions consist essentially of an inflammatory hyperplasia. In the skin the lesions vary in degree from a slight, scarcely appreciable, macular swelling to that of the tubercular eruptions in which the entire thickness of the skin is involved in all syphilitic lesions. The walls of the blood vessels are the seat of inflammatory changes, in the infiltrative process which usually surrounds the vessel. The changes which take place in the syphilitic lesions may terminate in three different ways:

1: The infiltration may undergo complete absorption, leaving no traces or only very insignificant ones.

2: It may undergo a fibrous organisation or sclerosis.

3: It may undergo a gummatous or caseous change, ending in necrobiosis.

The first termination occurs in the lesions of the first and second stages. The two last endings belong to the tertiary stage and constitute the gummatous and sclerotic processes, both of which are often associated and combined.

The most serious lesions of syphilis are those connected with blood vessels.

Primary Stage.

In acquired syphilis (by far the most common), the initial lesion or sore always develops at the point of contagion, and is accompanied with more or less pronounced enlargement of the neighboring glands. The period of incubation may be from fifteen to forty days, but most commonly the initial sore appears from the twenty-first to twenty-sixth day following exposure. The appearance of the secondary or constitutional symptoms takes place, as a rule, from four to forty-five days after the appearance of the chancre. While the primary stage is limited to the local sore, the manifestations of the secondary period are represented by many and scattered symptoms and lesions varying in character and degree, and consisting of eruptions on the

skin, erosions and ulcerations of mucous membranes, falling of hair, enlargement of glands, affections of the nails, muscles, periosteum, bones and of the special organs.

Tertiary Stage.

There is a certain degree of regularity, followed by the primary and secondary periods, that cannot be said of the third stage, which justifies the remark of Fournier "when does it begin and when does it end?" The tubercular and gummatous manifestations are peculiar to the third stage, the duration of the third stage is indefinite; its symptoms may appear during the first year or a few months of the disease, or they may not appear for five, ten, twenty and even as late as fifty years or more after the disease is contracted.

The tertiary stage is marked by the gravity of the manifestations as well as their destructive tendency.

It is extremely important that a diagnosis of the primary legion be made which can be done from the known period of incubation, from the objective characteristics, the hard swelling at the base, the enlargement of the glands in the neighborhood, and the finding of the treponema pallidum.

The serological reaction is rarely positive before the second or third week. The differentiated diagnosis rests chiefly between herpes, the simple venereal ulcer, or chancre, and occasionally the ecthymatous ulcerative lesions of scabies.

The demonstration of treponema establishes the diagnosis and allows of the immediate beginning of treatment when it can be most effective in destroying the invading organisms, preventing or lessening the later symptoms and greatly increasing the probability of an early cure.

Time will not permit my going into the details of treatment further than to recommend that the treatment be continuous for a period of at least two years after the symptoms of the secondary stage have developed, and then the patient should be kept under observation for a further period of at least three years, in order to immediately deal with any further outbreak of the disease.

Gonorrhoea.

Gonorrhoea is as old as mankind, and one of the scourges of humanity, which only recently has received little attention from the general public. While syphilis is recognized as a serious disease, gonorrhoea is often made light of, and one frequently hears reference made to it as being no worse than a bad cold, notwithstanding the fact that gonorrhoea is very much more common than syphilis, as well as being the cause of endless misery among the innocent.

The complications and after affects are not sufficiently known by the public, notwithstanding that both from a social and individual point of view they are just as serious as those of syphilis.

Until the beginning of the nineteenth century the distinction between gonorrhoea and syphilis was not well known. To Albert Neisser belongs the credit, in 1879, of the discovery of the specific organism which is the cause of ocular and urethral gonorrhoea.

In the middle of the nineteenth century the abortive treatment was first made use of by Voillemier.

Gonorrhoea is contracted in only one way, that, is by contagion.

When a man has contracted an attack of gonorrhoea, sensations of pain and burning in his urethra, soon make known to him the nature of his disease; but once the acute stage has passed off, he often under-estimates the seriousness of his case. If then he neglects treatment or postpones it and finally fails to be cured, he soon forgets that he is a source of danger to others. If while in this condition he marries, he infects his wife, and the absence of acute symptoms at this time, fails to warn the unfortunate young woman of the true nature of her illness, which so frequently ends in serious inflammatory conditions of the organs of generation, ultimately ending in complete sterility.

Gonorrhoea is one of the most frequent causes of depopulation, as well as being responsible for wrecking the lives of so many men, and the cause of sterility in so many women.

It is the duty of the medical profession to educate the public as to the true nature of gonorrhoea and the importance of having every case thoroughly cured.

It is obvious that one of the best means of combatting these diseases is education of the public with regard to their nature and how they are spread; and, if young men can be made to realize the seriousness of these diseases, their disabling and injurious results, the majority of them will avoid infection.

Measures Adopted in Canada.

At the present time the only provinces having legislation with regard to these diseases are Saskatchewan and Ontario, both of recent date.

The regulations of both provinces require that venereal diseases be reported and that those suffering be placed under proper treatment.

The Saskatchewan regulations require all persons affected with venereal disease to report to a physician and remain under treatment until a certificate of cure is granted. Physicians are required to report to the Commissioner of Public Health, all cases treated by them, by number only except in cases where the patient should not report for treatment for thirty days, when the name must be reported and treatment enforced.

In the event of the patient changing his physician, the second physician consulted must immediately notify the first physician that the patient is continuing treatment, and is under his care.

Physicians are supplied with circulars on venereal diseases which they are required to hand to patients at the first examination, along with a copy of the regulations.

Provision is made that no person suffering from venereal disease shall be employed as barber, waiter, butcher, teacher, or engage in any way in the handling or manufacture of food.

All reports are confidential, and secrecy is observed in dealing with the matter.

The pioneer country in this direction is Western Australia, where a Bill for the Control of Venereal Disease was passed in 1915.

This Act and the Amendments, which were found necessary in attempting to administer it, form a basis for Canadian legislation, so conditions in Canada are somewhat similar.

In Australia the Commonwealth came to the aid of the States adopting these measures and agreed to subsidize them on £1 for £1 basis up to £4,000 ($20,000.00) for the first year, and £2,000 ($10,000.00) subsequently, and this sum is expected to amount to half the expenditure. During 1916 free treatment and night clinics were established by the Department of Public Health, and literature prepared and issued with the object of educating the public.

Convictions were secured against unqualified persons treating venereal diseases. It was found difficult to organize the necessary treatment and accommodation for these diseases as laid down in the Act, but it was anticipated that by the end of 1917 the scheme would be complete and working in full swing.

The 1916 records were found to justify the legislation, and for the last seven months of the year 1,117 cases were notified, as follows: 747 gonorrhoea, 320 syphilis, and 50 chancroid.

The high proportion of syphilis would go to show that a large number of cases of gonorrhoea do not seek skilled attention. In the case of syphilis, of the 320 cases only 47 occurred in females (that is, a proportion of seven to one), and in the case of primary syphilis there is only one female affected to forty men, whereas in secondary syphilis the proportion becomes one to 3.5. This would go to prove that in women the primary sore is often overlooked, and females missed in the primary stages constitute a grave danger.

Making venereal disease reportable is the first essential step towards reducing the number of these diseases. Provision should be made for early diagnosis, in order that treatment may be commenced without delay. Free treatment for those unable to pay should also be provided.

Modern science has made such progress both in the treatment of syphilis and gonorrhoea that it is possible to cure the former, and even the worst forms of urethral inflammation can now be cured by appropriate treatment.

The most efficient manner of dealing with and reducing the danger from venereal diseases as communicable diseases is the insistence on all cases remaining under treatment until cured.

A very effectual manner of dealing with venereal diseases has been adopted by Dr. John S. McBride, Medical Health

Officer of the City of Seattle. I had the privilege of going into the details of the system during a visit to Seattle last March. There were at that time one hundred and sixty patients quarantined for venereal disease, one hundred and twenty women and forty men, all receiving the specific treatment required by each individual case. Two floors of the City Hall were utilized for the women and another building for the men.

Professional prostitutes and others suspected of being infected are arrested under the Vagrancy Act, examined, and if found to be suffering from venereal disease are quarantined under the authority of the law which declares venereal diseases to be communicable and therefore subject to quarantine. Numerous attempts to have these cases released by Habeas Corpus and other legal procedures have failed, as the law providing for quarantine of those suffering from communicable diseases is sufficient to hold them.

This method of controlling one of the great sources of the infection is very thorough and practical, and the results obtained in Seattle will be noted with great interest.

Selected Articles

LT.-COL. (DR.) F. A. C. SCRIMGER, V.C.

ALL day Friday and Saturday, April 23 and 24, 1915, the terrific bombardment of the new Canadian lines had gone on. It really started Thursday evening with the first gas attack. That attack rolled up the part of the allies' line held by a French battalion of Algerians. They were black fellows from Africa. When they first saw the greenish-brown cloud roll up from the German line across No Man's Land they stood up in the trenches and watched curiously. They had never seen a cloud like that before, and it was so dense that for a moment or two it relieved them from the merciless fire of the German sharpshooters across that narrow space of land. They were not afraid of the bullets. The cloud came nearer. It was on the French trench. The dark eyes grew wide with terror. The Algerians choked, fell in writhing pain. Black terror was in their faces. They were superstitious fellows and believed in the black arts of witchcraft, and this brown-green cloud that choked their lungs and threw them down frightened them. Those who were not thrown down left their trenches and tore over the fields to the town of Ypres, about five miles away. The canal of Yser flows into the town. The Algerians plunged into the canal, swam and did not stop until behind the zone.

Then the Germans, following up their clouds of poison gas, poured over the plains. Down into the valley of a little stream, up the other side, leaving swaths of the terrified Algerians on the springy, moist earth. The gun fire was terrific. Never for a moment did the terrible shelling stop. All the ground between the lines just forsaken by the Algerians and the Yser canal was swept by the German gun fire. Thousands of pounds of explosives were dropped on that heaving earth. The old town of

Ypres, which before the war was a quiet shopkeeper's town, was torn up with shells. Little children were killed in the streets. Houses were toppled over like a pile of cards.

For two awful days the bombardment had kept up. Next to the line of Algerians which had fled before the poison gas was the Third Canadian Brigade. When the French line was taken by the Germans the Canadians had the Germans' rifle fire poured down the line of the trench. That is called an enfilade. In front of the Third Brigade was a German trench. Germans were in the trench alongside of them, and soon got behind him. The Canadian Third Brigade bent its line, so that it could face the Germans and keep them from getting further behind them. The big guns behind the German lines poured down tons of iron shrapnel and high explosives. There was no shortage of ammunition with the Germans. But what of the Canadian guns. Once in a while one big boom would be heard.

"There goes old One-Lung," a Tommy would say. Then a long time would pass. The Canadians poured in rifle fire into the German lines as fast as they could, there were so few big guns that they were no match at all for the Germans' bombardment. Scores, hundreds of brave Canadian boys were shot down. The Germans surrounded some of them and took them prisoner. That was the time that the first Canadians were taken. It was said that 700 men were taken prisoner in those few days between April 22 and 26.

In all this terrific bombardment, when thousands of men were dead and wounded by the enemy's fire, no band of men worked harder than the men of the Canadian Army Medical Corps. The brigade headquarters was in a deserted farm house. There was a moat around it. In that country of canals it is an easy thing to have a moat around a building.

This building, part of it a stable, had been taken as an advanced dressing station. Scores of wounded men lay on the floors. Some of them would never see the broad St. Lawrence or Canadian shores again. Out there with the guns pounding death into that little strip of land around Ypres they gave their lives for the cause of liberty. Other men were being attended to by the doctors and stretcher-bearers. Some were very seri-

ously wounded. Others were not so bad. Bandages were rolled quickly about the wounded hand or foot. Heads were tied up and patients put aside to wait for a convenient time for them to be taken to a field hospital further back of the firing line.

Capt. F. A. C. Scrimger was medical officer of the 14th Battalion, Royal Montreal Regiment. With deft fingers he bound up bleeding wounds. Stretcher-bearers were carrying in load after load of groaning humanity. Brave khaki-clad boys tried with a wry mouth to smile as the doctor tenderly stripped the clothing from the wound and bound it up temporarily, then gave the still smiling boy a cigarette.

All day Friday and Saturday Capt. Scrimger worked without rest. Hundreds of brave men passed under his hand. All around the house where they were the scattered Canadian troops were putting up such a fight as the world had never seen before. With half a million Germans to 20,000 Canadians and French they held the passage to Ypres, and the great highways to the Town of Calais. If the Germans had got Calais they would have been able from there to bombard England. Not only were the Canadians and French at that point outnumbered, but they were almost without artillery to answer the big guns of the Germans which poured down destruction in torrents. That the Canadians held that piece of line is only due to the kind of men that they were. The spirit of the Canadians beat the guns of the Germans.

All the time from Thursday until Sunday Capt. Scrimger and his helpers worked in that little farm house with the moat around it. Sunday afternoon the fighting was coming closer. German soldiers were being poured on to that thin little line in great train loads. The guns were storming that strip of land with terrible ferocity. But this Sunday afternoon, Canadian boys, with mud-smeared faces, were crouching in shaking trenches and giving back to the Hun, whenever he came within gunshot, such a punishing that ten of them fled before one of those khaki boys. But brave as were the Canadian Tommies, the Huns were coming nearer the little house where Capt. Scrimger was performing his acts of mercy for the dauntless fellows.

The battle was thickening. The sound of big guns was closer. The Army Medical men started getting their men away from the building where they were working, which was now the

target for a big German gun. Incendiary shells were falling on the roof. They made a great hole in the roof. Part of the wall was falling. Then, what was that? It was rifle fire. The enemy was on them.

There was only a narrow road across the moat which surrounded the house. That little road was swept with rifle fire. The Germans were coming on at a low run. The stretcher-bearers could see their grey coats through the smoke. All the wounded men that could do so swam the moat that surrounded the building. One officer was left who was very seriously wounded. He could not move. Swimming was out of the question for him. Shrapnel was pouring through the naked rafters. A bomb had set the building afire.

Capt. Scrimger did not leave his post, though almost certain death surrounded him. He tenderly lifted the wounded man, protecting him as he did so from the showers of shrapnel which were raining on them. He carried the man out of the blazing house and placed him in a little hollow. There he crouched beside him, still protecting him with his own body. Soon two of the staff of the Third Brigade came back. They reswam the moat and waited for a lull in the shower of bullets and shrapnel. Then they got the wounded man across the road, to a stretcher and finally to a dressing station.

This was only one of the incidents of that day. The officers, including Capt. Scrimger, went back to other duties. They had only done what a British soldier would always do in time of danger. But the devotion of Capt. Scrimger was rewarded with the highest honor which Great Britain gives to her sons. He was given the Victoria Cross, bearing the words, "For valor."

Capt. MacDonald, of London, Ont., was the officer whose life Capt. Scrimger saved. Capt. MacDonald gave the full particulars in an interview to "Windermere," an overseas correspondent. Capt. MacDonald said:

"I was in front of the Canadian headquarters staff April 25, which was the third day of the terrible St. Julien fighting, when I was hit on the neck and shoulder. I was dragged into a building, where Capt. Scrimger dressed my wounds. A few minutes later German shells found the building and set it on fire. The staff was forced to abandon the building and left me there

as an apparently hopeless case. But Capt. Scrimger carried me out and down to a moat fifty feet in front, where we lay half in the water. Capt. Scrimger curled himself round my wounded head and shoulder to protect me from the heavy shell fire, at obvious peril to his own life. He stayed with me till the fire slackened, then got the stretcher-bearers and had me carried to the dressing station. This, however, is only one of many incidents of Captain Scrimger's heroism in those awful three days. No man ever better deserved the soldier's highest honor."

Capt. Scrimger was further honored by being made head of surgery in No. 3 Canadian General Hospital (McGill University). He has the rank of lieutenant-colonel. He is the son of the late Rev. John Scrimger, principal of the Presbyterian College in Montreal, and is a graduate and member of the teaching staff of McGill University.

THE ELDERLY CONSUMPTIVE

A WRITER in the *Medical Press,* who reads Celsus, contends that the elderly consumptive does better at home than in a sanatorium. Special treatments, generally, are to be avoided. Rest is the most important curative factor. After two months in bed, temperature being normal, massage of limbs and abdomen is advised beginning with five minutes per day, to keep the muscles and viscera in tone and to lessen dyspnea, fatigue and fever when walking is begun. Rest for one and a half hours before and one hour after the midday meal, and one and one-half after supper, choosing the posture which favors the least coughing. Absolute silence should be insisted upon. Failing sleep, light reading may be allowed:

As to feeding, many patients can tackle and digest a square meal—which they could not look at if they were up and about. So long as this is so, the elderly consumptive should keep to the feathers, eat and drink thrice daily and at stated hours only. Nothing at all between meals. Wine or whiskey with supper.

The best olive oil—3ii mixed or cooked with each meal—and calcii lactis receutes gr. iii in the same way.

Tum a negotus abstinendum est, omnibusque rebus, quae

sollicitare animum possant; somno indulgendum.....Citi vero esse debent ex us, qui facile concoquiuntm, qui maxine alant. Ergo vini quoque, sed ansteri, necessarius usus est." (A. C. Celsus), which summarized recommends abstention from active labor and worry; the ingestion of plain, well-cooked food; plenty of sleep and the necessary amount of sour wine.

If we haven't caught Father Celsus' ideas we are open to correction.

MEDICAL EDUCATION

Sir James MacKenzie, the heart specialist, in the Inaugural Address of the 181st Session of the Royal Society, Edinburgh, as reported in the *Edinburgh Medical Journal,* gave voice to some excellent ideas on the aim of medical education. The inability to realize that there was an essential source of information untapped brought out one of the greatest defects in our methods of dealing with medicine—and that was the viewpoint of the general practitioner, who had sought for the varied phases of disease and had had the defects of medical education forced upon him. Doctors detect disease by the presence of symptoms. Hitherto the chief progress had been made of the minute study of disease after the patient had died, or after it had produced a physical sign. But what had they been doing to discover the early stages, when the disease was more amenable to treatment? In hospitals the poor patients in the early stages of disease sought the out-patient department, where it had been the custom to hand over these cases, many of them difficult of diagnosis, to the least experienced members of the staff; while the patients in the easily discovered stage of disease and most hopeless for treatment were handed over to the experienced physicians as in-patients.

Sir James proceeded to criticize medical teaching in so far as prognosis was concerned. For instance, the inability to estimate the value of heart murmurs was almost universal. There was no use blaming the doctor. The fault lay with the teaching. Sir James had recently read a most valuable work

on arterio-sclerosis by a great teacher and physician, but all cases quoted and his experience with them was limited to the later stage of the disease, and one sought in vain for a hint as to onset and progress of the condition. The individual who would be able to supplement this knowledge was the general practitioner who had the opportunity of watching this disease throughout all its stages. One of the great hindrances to progress in medicine was a want of clear differentiating of symptoms. Before we could assess the value of any sign or symptom it was necessary to separate it clearly and distinctly from others that might resemble it. When he (Sir James) took up the matter of irregular heart some thirty years ago, no attempt had been made to distinguish the different forms of that trouble action on any intelligent basis. When he came to analyse his observations on heart disease in pregnancy he found a great variety of signs which needed interpretation. In some women pregnancy induced heart failure. Did any of the signs indicate heart failure or foreshadow its occurrence? He turned to text-books and libraries without avail. The knowledge he wanted did not exist.

Imperfect knowledge of symptoms reacted on all branches of medicine. Progress in bacteriology had been delayed by this lack. There was a different reaction produced by various organisms. It was imperative that the bacteriologist come out of his laboratory and study their effects upon the human body. There was also an imperative call for a form of physiology which would recognize the symptoms produced in the human subject and would aim to explain the mechanism by which these phenomena are produced. Such physiology must be guided by the demands of medicine.

Turning to therapeutics, Sir James averred that there had not been a single drug in the whole pharmacopeia whose effects upon the human body had been properly studied! In his study of the action of digitalis on hearts, he had found it act in a most capricious manner—profoundly affecting some hearts and having no effect on others. He found that the action of this drug was modified by the disease affecting the heart.

The fundamental fault in medical knowledge was due to academic inactivity. In the direction of affairs which should influence the teaching of medicine and the prosecution of research the great bulk of the profession were excluded. The majority of patients the general practitioner was called upon to treat presented phenomena which he was never taught to recognize while the diseases seen were—many of them—quite different from those seen in hospital. The result was general practitioners, after entering practice, had to forget much of what they had been taught and set about re-educating themselves. The fact that there were whole fields of medicine absolutely essential to progress, from which the teaching class is shut off, had not yet dawned on the academic mind.

Suppose a young physician with a desire to become a teacher wanted to spend five years in general practice so as to see the diseases his students would ultimately meet, and to make himself familiar with the opportunities of his future students—such a step (which common sense would dictate) would, under the present conception, disqualify him for a teaching post in any school.

Before we could attempt to reform medical education we must know where it fails, and until this was thoroughly understood the methods to be pursued could not become clear.

RADCLIFFE

THERE was published in 1716 by Charles Rivington, "at the Bible and Crown, against the north door of St. Paul's Church, in St. Paul's Churchyard" with the approval and recommendation of the College of Physicians (so says the advertisement) the second edition of a book with the title "Pharmacopeia Radcliffeana; or Dr. Radcliffe's Prescriptions, faithfully gather'd from his original Recipés. To which are annex'd, Useful observations upon each Prescription." The price of the book was 1s. 6d. in sheep and 2s. in calf, and it contained an excellent engraved portrait of "Johannes Radcliffe, M.D. Ob. Nov. 1, 1714. Ætat. 64."

The preface is written with the *naïveté* common to the literature of the period, and as it throws some light on the contemporary opinion of Radcliffe, it is here reproduced.

"I have, with some Pains and Expence, got the genuine receipts of the famous Dr. Radcliffe, who amass'd so vast an estate of his Practice, that future ages will hardly credit it; He acquir'd the name of a quick Discoverer of the Causes of Distempers, and I don't at all doubt, with justice for success sufficiently prov'd it. As to his receipts, I find he has follow'd the advice of the Honourable Mr. Boyle, in his treatise of Simple Medicines, for where will you find a Pharmacopeia more simple, and a Physician more successful, I believe, I need not mention how great a man in town, now, copies his receipts, 'tis too evident in the Files of the Apothecaries; and whoever reads these, knows his Methods; I wish him the same success as, doubtless, he deserves it.

"I would advise every Prescriber to make use of as few Remedies as possible, so they be effectual; for doubtless Jumbles affect our Blood and Vessels as they do our Stomacks; nor can we easily bear 'em: so that the Remedy becomes as troublesome as the Disease. I know the Gentlemen of the Pestle will decry my opinion; for as Fox-Hunters never praise that horse, which does not, as they term it, make 'em feel every Corner of the Saddle; so some never approve a Physician who does not plunder a Shop at a Prescription. However, some of 'em are more prudent in their Proceedings, and think it indiscreet in their Prescribers to order such scarce high pric'd Medicines, as the Patients scruple to allow sufficiently for. And I am of opinion this very Method has laid the grounds for discarding Physicians from so general Practice; for who can bear such Extravagancies as to pay large Fees and at length a large Bill? So that 'tis good Policy to depend on simple and efficacious Medicines as well as good Practice.

"As the world approves this collection they may be favour'd with more of this great man's Practice; but at present the Humour of writing is wore off, nor shall it be easily reassum'd till full Encouragement.

"I would have no one doubt of the Recipe's being genuine,

which 'tis easy to satisfy themselves of from any File in Town. All the Bookseller wishes for is that they may have the same Fate their Master had, of pleasing the world, and refund him his expenses. 'Tis hop'd, the Observations may render it acceptable to the Readers, who, without 'em, would be much at a loss: If it bring Profit to the one, and Pleasure to the other, it answers the End.

"The Recipe's in this part have been much cry'd down by many: First, Because they are look'd upon not to be genuine; And, in the next Place, because they are in English. But I challenge any Assaylant to make it appear that they are not the Doctor's individual Receipts. For I have neither added to 'em, nor taken from 'em, that the world might judge of this great man as they like."

Radcliffe amassed a great fortune from his profession, and by his will bequeathed the greater part to charitable objects. He undertook no hospital practice, but was a governor of St. Bartholomew's Hospital, in which he took so great an interest that he refused a similar office in the Bridewell and Bethlehem Hospitals, lest it should interfere with his work there. He made a bequest to the hospital in the following terms: "I give unto St. Bartholomew's Hospital in Smithfield, London, for ever, the yearly sum of five hundred pounds, towards mending their Diet: and the farther yearly sum of one hundred pounds for ever, for buying of Linnen." A ward in St. Bartholomew's Hospital is named after Radcliffe.

Radcliffe was a man, compared to whose brusqueness that of Abernethy was as mild as milk, and on several occasions, whether intentionally or impulsively on the spur of the moment, he even insulted royalty, getting himself thoroughly hated for his pains. In trifles he was the essence of meanness, but could be very generous, especially to his friends. A story is told that he employed a poor man to lay the stones in front of his house in Bloomsbury Square, but when the job was finished put off paying the account so long that the pavior had to waylay him in order to try to get the money. On one occasion he waited in front of the doctor's house and accosted Radcliffe as the latter was alighting from his carriage. "Why, you rascal!"

said the doctor, "do you pretend to be paid for such a piece of work? Why, you have spoiled my pavement, and then covered it over with earth, to hide the bad work."

"Doctor," replied the man, dryly, "mine is not the only bad work the earth hides."

The straight hit was successful in getting the account settled.

R. TAIT McKENZIE, M.D.

A STORY full of romance and of exceptional interest to Canadians is that of Dr. R. Tait McKenzie, the Canadian-born physician and sculptor, as told by Harold Donaldson Eberlin in *The Century Magazine*. Born in Almonte, Ont., in 1867, Dr. McKenzie's early years were devoted to a struggle on his own part and that of his mother, the widow of a minister of the Scottish kirk, to make possible a university education. He eventually, by means of such arduous vacation work as employment on the docks at Montreal, made his way through McGill, from whence he graduated in arts in 1889 and in medicine in 1892. He held various posts, subsequently, in the same university; was house physician to the Earl of Aberdeen during his years as Governor-General, and built up a considerable private practice as a specialist in the treatment of deformities. In 1904 he became professor of physical therapy in the medical school and Director of the Department of Physical Education of the University of Pennsylvania. He had taken an interest in athletics during his college days. He had always taken a keen interest, too, in drawing and painting, and had acquired considerable facility with pencil and brush during his leisure hours. It was while still at McGill, in 1902, that he decided to have constructed as "a visible table of facts for reference," a model figure of a sprinter, whose physical proportions should embody the averaged measurements of eighty-nine track athletes. Finding no sculptor who would assume this undertaking, he did it himself—though his previous experience in the plastic art was

summed up in a series of masques showing "The Progress of Fatigue"—and the result was "The Sprinter," which was exhibited before the Society of American Artists in 1903, at the Royal Academy in the same year, at the Salon in 1904, and eventually was acquired by the Fitzwilliam Museum of Cambridge, England. The figure, one-quarter life size, shows a runner, stooped, muscles tense, awaiting the signal for action.

"As a conception of plastic art expression and well-considered composition, its merit is more than reminiscent of the golden age of classic performance," says Mr. Eberlein. "As a faithful anatomical study, the marshaling of masses and the play of muscles are so instinct with veri-similitude to life that every lineament bespeaks the touch of a master anatomist."

This same successful effort to reduce "theoretical figures to plastic fact" characterized Dr. McKenzie's next work, "The Athlete," exhibited in the Salon of 1903, but after that he departed from this conception, owing, probably, chiefly to his wish to immortalize the type of the American athlete, for the realization of which ideal he was so well situated at the University of Pennsylvania.

He has done many other famous figures which have been widely exhibited. Some of them are now in the possession of the Metropolitan Museum in New York, and "The Competitor" is in our own National Gallery at Ottawa. Since the outbreak of war he has produced "Blighty" and "Guy Drummond," and in 1915 he was instrumental in organizing in England the Command Depots for the remaking of men who were capable, in this way, of being returned to military or civilian life. "He has also," the writer says, "accomplished notable results in the fashioning of masques to supply the place of features torn away or hopelessly mutilated by shell wounds."

CANADIAN COLLECTION OF MEDICAL WAR SPECIMENS

From 1914 onwards the Canadian Army Medical Service has co-operated with the Army Medical Service in the endeavor to obtain adequate medical records of the world-war. Being perhaps familiar with the great collections which the United

States possess from their Civil War in the Army Medical Museum at Washington, the C.A.M.C. has steadily been working ahead to obtain material of all sorts which will worthily illustrate the medical aspect of the war. In 1915 the Royal College of Surgeons of England, being the custodian of the Hunterian Museum of the College, which may be described as the National Medical Museum of the Empire, offered its services to collect and prepare the medical material for the whole British Expeditionary Force. In national spirit the college came to the assistance of Canada and the other Dominions, and offered to receive and care for material collected by their medical units—to be, in fact, the clearing house in which this material could be collected, and later allocated to the rightful possessors. Thus all pathological and other material from Canadian hospitals, whether overseas or in Great Britain, finds its way to Lincoln's Inn Fields, and has been reviewed in Professor Arthur Keith's annual report, which has recently appeared. Already a large amount of this material has been sent to Canada, and at the notable medical gathering in May at Hamilton, Ont., to which we have already called attention (*The Lancet,* July 27th, p. 120), when five of the most important medical associations of Canada met together, one of the outstanding features was the exhibition of specimens thus sent over. At the concluding session of the congress one of the main resolutions passed was "That whereas these war specimens have aroused great interest both among military surgeons, civil practitioners, and the general public visiting the congress, and since their further collection and their adequate preservation and development into a great Canadian War Museum must be of the utmost value in the education of the Canadian Army Medical Corps at the present time, as well as a fitting memorial to future generations of the sacrifices of our troops, be it resolved that a copy of this statement of appreciation be sent to Surgeon-General Fotheringham, D.G.M.S., with the recommendation that it be forwarded to the minister overseas, as an expression of the warm support which the development of a Canadian Army Medical Corps Museum received from the members of the Canadian Medical Association." Sir

Robert Borden's visit to the Royal College of Surgeons, England, on the afternoon of Wednesday, August 14th, was thus an act of appreciation on his part of the services rendered to Canada by the English College, and was the formal opening of the exhibition now being held there. This exhibition is not the sum total of Canadian war specimens, but includes some of the more interesting of the specimens. Among these may be mentioned wax and plaster casts of war injuries, made at Orpington by Major F. Lessore and his staff; bird's-eye views and drawings by Captain Mathews, C.A.M.C., a well-known Canadian artist, of the different buildings in Great Britain and overseas occupied as Canadian war hospitals; pathological specimens, photographs, and X rays of war wounds and diseases. The whole affords a striking idea of the human interest there is in the records of the sufferings undergone by the soldiers, and the endeavors made by the medical services to counteract those sufferings.—*The Lancet.*

AN ANECDOTE OF SIR ASTLEY COOPER

By The Honorable William Renwick Riddell, LL.D., F.R.S.C., etc., Toronto.
Justice of the Supreme Court of Ontario.

In my early years I knew George Coventry, an English gentleman living in Cobourg, Ontario, who was a man of great intelligence and considerable literary attainments. At his death he left three volumes of "Reminiscences" in manuscript and from these I take a story of Sir Astley Cooper which may be of interest to the medical profession at the present time.

Speaking of the year 1818, when he was living in London, Coventry says:

"I also attended Sir Astley Cooper's lectures, having a particular friend, Doctor Ellerby, who took me under his protection. They were very clearly and beautifully delivered. On one occasion a man was laid on the table for the audience to witness the dexterity with which Sir Astley could cut off

a man's leg. Whilst he was explaining some part of the process, the man died; and there he lay. Sir Astley looked at him and turning round said very composedly, 'Our friend has left us, bring another.' He went on with the lecture without any further comment, thus evincing to the students the necessity of a surgeon being calm and cool on all occasions."

That reminds one of the experience of the noted Samuel Pepys which he relates in his diary under date, February 27th, 1663 (vol. iii, p. 50). He says:

"About 11 o'clock Commissioner Pitt and I walked to Chyrurgeon's Hall (we being all invited thither and promised to dine there) where we were led into the theatre and by and by comes the Reader Doctor Tearne with the Master and company in a very handsome manner; and all being settled he began his lecture, this being the second upon the kidneys, ureters, etc., which was very fine; and his discourse being ended we walked into the hall and there being great store of company, we had a fine dinner and good learned company, many doctors of physique and we met with extraordinary great respect. Among other observances we drank the King's health out of a gilt cup given by King Henry VIII to this company, with bells hanging at it which every man is to ring by shaking after he hath drunk up the whole cup. . . . After dinner Dr. (Sir Charles) Scarborough took some of his friends, and I went along with them, to see the body alone which we did which was a lusty fellow that was hanged for a robbery. . . . All the doctors at the table conclude that there is no pain at all in hanging for that it do stop the circulation of the blood, and so stops all sense of motion in an instant. Thence we went into a private room where I perceive they prepare the bodies and there were the kidneys, ureters, etc., upon which he read to-day and Dr. Scarborough . . . did show very clearly the manner of the disease of the stone and the cutting. . . . Thence . . . back to the company where I heard good discourse and so to the afternoon lecture upon the heart and lungs, etc., and that being done we broke up, took leave and back to the office. . . ."

(It must have been a great grief to Pepys after this intellectual treat to find a colleague "pretty well fuddled.")

The demonstrations were of course at the College of Barber Surgeons who had been incorporated by Henry VIII. We all know that Henry VIII was one of the most successful exponents of the radical operation for marital infidelity. When he had completed his treatment there never was any return of the malady—the patient was completely cured.—*New York Medical Journal.*

UNIVERSITY NEWS

UNIVERSITY OF TORONTO

Extension Courses and Lectures for Graduates in Medicine.

The Faculty of Medicine of the University of Toronto recognizes that the practitioners of the Province are anxious to keep closely in touch with the advances in Medicine, and that they have a claim on the Provincial University to aid them in doing so. The Faculty considers this duty as being second only to the instruction of the undergraduate.

At the moment the rapid advances in knowledge and the many changes due to the war make it impossible for the Faculty to offer set courses of sufficient variety to meet all the needs of those who seek further study. It further considers that the method which is the usual one in England and on the continent will meet the needs if it be administered in a personal and sympathetic way through an advisory committee.

Those who have studied abroad know that the routine method is for the graduate to attend the instruction given to the students of the senior years in Medicine, to follow the ward rounds and to go to the out-patient department picking up what he can. If special instruction is required in order to enable him to follow the clinical work, this is obtained privately from a tutor. The University hopes to improve on this method.

A standing committee has been appointed whose duty it is to give to any graduate interested, advice as to the clinics and lectures which should be taken and to confer with the

heads of departments and individual teachers so as to arrange a course in advance for each applicant. Such a course may be modified by the committee if it does not prove suitable.

The Fifth Year student in Medicine is now receiving the most advanced type of clinical instruction, and his teachers often take advantage of the modern laboratory training given in the junior years and may thus make their instruction somewhat difficult to follow by those who have not had this preliminary training. The teacher will, however, be prepared to explain privately any difficulties, to recommend such books as will clear away these difficulties or through the Committee to arrange for some special laboratory instruction.

All the library facilities of the University will be open to any post-graduate student under the usual conditions.

The staff fully realizes that every effort must be made to render the visit of each post-graduate student both pleasant and of real value. Instruction may be obtained as outlined above in the following:

Medicine, Surgery, Obstetrics and Gynecology, Pediatrics, Otology, Rhinology, Laryngology, Ophthalmology, Preventive Medicine, Pathology and Bacteriology.

Applicants for courses should remember that the shorter and the more general a course they desire the more difficult it will be to arrange to meet their needs and the more superficial the training that they receive is likely to be, while the longer the period they can devote and the narrower the field, the easier the committee will find it to meet their requirements and the more thorough will be the training.

The University will impose a minimum fee of $10 per month. This will be imposed for any course of less than a month as a registration fee. In such cases where extended work and attention is required, a special fee to cover the same will be arranged by the committee.

Extension Lectures.

In order to aid medical societies or groups of physicians to keep up-to-date, the committee is prepared to arrange lectures for such societies.

The Physician's Library

"Mainly for Mother." By 58073—Armine Norris, M.C., Lieutenant, Canadian Machine Gun Corps. The Ryerson Press, Toronto.

It has been with the greatest of pleasure that we have read this volume and we can conceive of no more suitable holiday gift than a copy sent to a friend. The letters are intensely interesting, because they are so human. They were written by Lieut. Norris, M.C., while serving with the C.E.F., in France, and, while reading them one cannot but be struck with the splendid spirit of the boy who in spite of danger on every hand, was able to keep so full a record of what transpired from week to week as to enable his beloved parents, who have every reason to feel intensely proud of their dead boy's record as a soldier, to place at the disposal of the Canadian public a book that will afford so much pleasure in its perusal. Thank God for men like Lieut. Norris, M.C., who counted not his life dear, but placed it willingly and freely at the service of his country. Canada may well feel proud of such boys. May their memory ever remain green and be an example to Canada's youth for a hundred years to come.

Atlas of Operative Gynecology. By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania. 164 plates, 46 figures, nearly all in colors. Price $7.00. The J. B. Lippincott Co., 201 Unity Building, Montreal. Philadelphia, London.

This work is beautifully gotten up. The text is clear and concise and the pictures are excellent. Dr. Hirst's operating

plant, and out-patients' rooms—waiting, examining, toilet—are shown, and will be found of value to abdominal surgeons and architects who have plans of buildings in contemplation. Pictures of the lay-outs of instruments needed and of operating and examining tables are also presented. The whole done in fine calendered paper. The details of each step are so admirably shown that one gets a better idea of how to perform these operations than the average student does at an operation.

The Physician's Visiting List (Lindsay & Blakiston's) *for* 1920. Sixty-ninth year of its publication. Price $1.75 net. Philadelphia: P. Blakiston's Son & Co. (successors to Lindsay & Blakiston), 1012 Walnut Street. Sold by all booksellers and druggists.

Every practitioner should have a visiting list. The regular editions of this work are dated beginning with January 1st, 1920, and are made up in sizes for 25 and 50 patients weekly; 50 weekly in two volumes; 75 and 100 weekly in two volumes. The perpetual and monthly editions are undated. The yearly calendar gestation table, American mortality table, dosage tables, antidotes and other important information for ready reference are available. We recommend this handy volume to our readers.

The Medical Record Visiting List or Physician's Diary for 1920. Revised. New York: William Wood & Co., publishers.

This compact leather bound pocket book in which physicians can keep account of all visits made and to be made with appointment hours is sure to be of great assistance to the busy practitioner who frequently has not the time or patience to systematically record his daily work.

A few pages in front are taken up with miscellaneous information all busy doctors constantly require and have not always at hand the necessary reference.

Personals

Dr. A. J. Mackenzie, having been released from military duty, has resumed practice. His office is at No. 12 Avenue Road.

Dr. E. E. Cleaver, 155 Bloor Street East, Toronto, wishes to announce to the profession that he will devote his attention to the investigation of Gastro-Intestinal Diseases, including Laboratory and X-ray methods.

Dr. Frederick W. Marlow, F.R.C.S., England, wishes to announce to the medical profession that he will confine his surgical practice to Abdominal Surgery and Gynecology (including diseases of the female breast). Dr. Frederick C. Marlow, having returned after four years' service overseas, is located for practice at 647 Broadview Avenue, Toronto.

Dr. J. K. Milne Dickie, F.R.S.C.E., formerly Ear, Nose and Throat Surgeon to Leith Hospital, Edinburgh, has recently come to Toronto and opened an office at 47 Grosvenor Street, where he will commence practice, limited to diseases of the ear, nose and throat.

Dr. Dickie was for some years on the staff of the University of Edinburgh where he was engaged on the study of the upper air passages and of the ear. He received most of his special training in Edinburgh where he worked under Dr. Logan Turner and Dr. J. S. Fraser for several years.

Dr. Dickie was for four years on active service, and in 1918 was appointed specialist in Oto-Laryngology to the Second Army B.E.F., and was O.C. Second Army Ear, Nose and Throat Centre.

At various times Dr. Dickie has contributed a number of papers to the literature on the ear, nose and throat, and particularly to the minute anatomy of the ear, principally by means of the reconstruction method.

Obituary

Dr. A. G. Patterson, of Grafton, died a few weeks ago at Lisbon, Minnesota. Dr. Patterson was born at Grafton in 1865 and graduated from Trinity University, Toronto, in 1889. He took post-graduate work in Chicago, and practised at Hamilton, Mont., East Chicago, and Lisbon. A brother, Dr. T. C. Patterson, is practising in Lisbon at the present time. Deceased leaves a wife and four sisters: Mrs. McColl, of Barnesville, Minn.; Mrs. Elmer Robins, of Modesto, Cal.; Mrs. Haskel, of Fargo, and Mrs. B. Patterson, of Barnesville, Minn.

Dr. Robert Addison Stevenson, of Toronto, after a long illness, passed away on November 14th, at his home, 145 Bloor Street East. Dr. Stevenson was well known in the medical profession and by a wide circle of former patients in the city, to whom he was both physician and friend. Coming of United Empire Loyalist stock, the late Dr. Stevenson was named after Rev. Robert Addison, the first missionary in Upper Canada, who was his great-grandfather. His mother was the granddaughter of Col. John Butler, of the famous Butler Rangers. Dr. Stevenson was born at St. Catharines, in 1845, and passed his boyhood in Cayuga. His father was judge of the county of Haldimand. He was a graduate of Upper Canada College and of the University of Toronto. He took his medical course at McGill University, later taking a post-graduate course at St. Thomas' Hospital, London, England. His first practice was at Strathroy. He came to Toronto thirty years ago. He was for many years chairman of the staff of Grace Hospital and head of its medical service. His wife, a daughter of the late Agnew P. Farrell, Registrar of the County of Haldimand, predeceased him many years ago. His only child is the wife of Brigadier-General A. S. Cartwright, C.B., C.M.G., now Chief Engineer, Aldershot, England.

Publisher's Department

WINTHROP PRODUCTS IN CANADA

As will be seen from the advertisement appearing on the back cover page of this issue, the Winthrop Chemical Company, Inc., is now supplying a number of established products in Canada.

This firm, which acquired the exclusive control of these preparations through their sale by the United States Government, is completely free from any German influence, either as regards ownership or management.

Many of these remedies, as, for instance, sulfonal, veronal, aristol, phenacetin, protargol and trional, are well-known to the medical profession and others, such as luminal, sajodin, helmitol and novaspirin, have been constantly increasing in popularity.

It is gratifying to note that in spite of the complex synthetic character of some of them and the boast of German chemists that they could not be made elsewhere than in their own country, the difficulties of their manufacture have been successfully surmounted, and they are now produced according to the original processes.

THE MOST PICTURESQUE HEALTH RESORT IN AMERICA

The return to civilian life of the famous West Baden Springs Hotel, after its period of patriotic war service for the government, has once again given to the public the opportunity to enjoy one of the most delightful health resorts in the world.

The unique and pleasing structure of this building, the beauty of its extensive grounds, the "sporty" golf course which it affords, its facilities for other outdoor amusements, and above all, perhaps, the wonder of its great atrium, a beautiful inner court, the largest in the world, where there is perpetual summer with balmy air of unvarying temperature and growing plants of the tropics, have long attracted guests in great numbers, and now, with new furnishings and appointments, and additions in service and equipment, it offers greater attractions than ever before known.

For more than a century its springs have been famous for their medicinal properties, and the use of the water, both for rebuilding during periods of convalescence, and for the cure of various kidney diseases, such as diabetes, Bright's disease, chronic inflammation, gravel in its incipiency, dropsy, inflammation of the bladder, anemia, nervous debility, torpid liver and constipation, has been recommended by physicians everywhere. Facilities are also offered for sulphur, Turkish, shampoo, salt, electric glow and mud baths.

Physicians may unhesitatingly send patients to this resort, confident of beneficial results and of the full co-operation of the management.

THE REX ALL-SEASONS TOP

There is perhaps nothing so essential to the medical practitioner, who has of necessity to be out night and day in all kinds of weather, as a closed body on his car. The attention of the readers of *The Journal* is called to the advertisement in this issue of Carriage Factories, Limited, Orillia, Ont. This firm are the manufacturers of the Rex All-Season's Top, which can be equipped to a body in a few hours. Such a body is well worth the outlay, as it makes motoring a delight no matter what the weather is. A Rex top is not only graceful in appearance, but very durable, and beautifully designed.

LISTERINE

A Non-Poisonous, Unirritating Antiseptic Solution

Agreeable and satisfactory alike to the Physician, Surgeon, Nurse and Patient. Listerine has a wide field of usefulness, and its unvarying quality assures like results under like conditions.

As a wash and dressing for wounds

As a deodorizing, antiseptic lotion

As a gargle, spray or douche

As a mouth-wash-dentifrice

Operative or accidental wounds heal rapidly under a Listerine dressing, as its action does not interfere with the natural reparative processes.

The freedom of Listerine from possibility of poisonous effect is a distinct advantage, and especially so when the preparation is prescribed for employment in the home.

LAMBERT PHARMACAL COMPANY

ST. LOUIS, MO., U.S.A.

66 Gerrard Street East **Toronto, Ontario**

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

Physicians have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information Christian S. Andersen, Esq.

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Editorials

VACCINE AND VACCINATION

On May 14th, 1796, Edward Jenner vaccinated Jimmy Phipps with the virus from a cowpox lesion on the hand of a dairymaid, Sally Nehnes, and on July 1st he inoculated Jimmy with the pus from a small-pox patient, and Jimmy didn't "catch" the small-pox! This experiment was verified by John Redmond Coxe in Philadelphia early in the 19th century. Fornet has described certain small, diplococcus-like bodies found both in cowpox vaccine and in small-pox lesions. It is assumed that the small-pox virus in passing through the cow loses its power completely of ever producing small-pox, but that the anti-bodies it produces can protect against small-pox.

The old practice of vaccinating one individual with the vaccine from the scab of another person

was discontinued, chiefly on account of the danger of transmitting syphilis.

The most troublesome factor in connection with the manufacture of vaccine is the securing of seed virus. Enough vaccine virus should be secured to vaccinate 45 persons. Five children (never vaccinated) should be inoculated, each on a spot the size of a ten-cent piece. On the fifth day the upper layer of the resulting vesicle should be removed and sterilized bone slips rubbed on the base exposed. From 100 to 200 slips on each side of each slip may be charged from each child. The slips are dried for a minute, put in a sterilized box and placed in cold storage, in which they will remain active for two or three weeks.

Calves two to four months old are kept under supervision a few days and tested with tuberculin or inspected by a veterinary surgeon. The animal is clipped and thoroughly cleansed—hoof and tail. The day before vaccination the belly wall is shaved, and well up under sides of thighs and flanks, and just preceding the operation these areas are prepared as the human would be for an abdominal section, adjoining portions being covered with sterile sheets.

About 100 small scratches are made in these areas, linearly or crossed, the lines being one or two centimeters apart, and heavy enough to bring a small amount of blood. The scarifications are mopped with sterile gauze and rubbed with the charged slips. One or two slips are used for each

small area. The lesions are allowed to dry, then covered with sterile gauze or a protective paste, or left uncovered. The animal is kept as clean as possible and the floors hosed with hot water daily. In five or six days the virus is ready for collection. The calf is killed and placed on the operating table. As careful and painstaking precautions are taken as are observed in a first-class surgical operating room, both as to appointments, staff, etc. The vaccinated field is thoroughly scrubbed with soap, sterile water and gauze and mopped with sterile gauze. Crusts are carefully picked off, and the soft, pulpy mass curetted off and collected in a sterile vessel. Serum then exudes from the excoriated base of the vesicle. The ivory tips may be charged with this. The sticky and pulpy exudate is then mixed with four times its weight of glycerine and water (50 per cent. glycerine, 49 per cent. water, 1 per cent. phenol). This pulp is allowed to stand three or four weeks to allow bacteria present to undergo dissolution. It is then triturated and put up in the small capillary tubes, which are sealed; or vaccine points may be prepared. These are potent for three months, if kept in a dark cool place. The vaccine thus prepared is tested for its efficacy, and for the presence of micro-organisms, particularly tetanus.

At this writing compulsory general vaccination is a dead letter in Toronto, owing to a legal quibble between the Council of the City of Toronto and the Provincial Board of Health. The latter issued an order that the City Council declare for general vaccin-

ation of the citizens. The Council refused. The Board's attorney then took legal steps to compel the city to act. The question was referred by counsel to His Lordship Judge Sutherland, who holds that he cannot grant a mandamus on account of the fact that under the law the Provincial Board of Health cannot make an application for such, but that such application must come from either the taxpayer or the Crown. A suggestion was made that the Toronto Board of Health join with the Provincial Board of Health in the mandamus action; but the former body refused to do so, stating that it would be foolish to join in action practically against themselves.

The matter was argued before The Court of Appeal and Mr. Justice Riddell, who wrote the judgment, has this to say of the Public Health Act:

> "By no stretch of charity can it be said that the act is well drawn, but we must take it as it is drawn; we can neither enlarge nor diminish it."

The judgment reads, in part:

> "Assuming the entity of the board and its power of applying to the court, I do not think it has a right to the order asked for. Under the law a mandamus is not granted unless the applicant can 'show that he has a clear legal specific right to ask for the intervention of the court.' No such right is given to the board

specifically, or, as I think, by implication. The Council of the city is a separate and distinct body, with its own ambit of duty prescribed by statute, and I can see no more right in the board to interfere in the conduct of the Council than in the Council to interfere in the conduct of the board."

If the Provincial Board of Health would take the hint, as dropped by Mr. Justice Sutherland, and have the Attorney-General join in the action, the mandamus would be issued at once. But it is unlikely that the neophytic Government will have the courage to do this. The whole proceeding has resulted in nothing short of a fiasco, and the city of Toronto has been placed in a most unenviable light —the Council having made itself a sort of laughing stock.

Perhaps the best step to take would be to secure an amendment to the present act covering compulsory vaccination at the coming session of the legislature.

The City Council has been sowing the wind and the city is reaping the whirlwind. That members of this body, as well as many intelligent citizens, should be influenced and scared by the anti-vaccinationists is a surprising thing. But, in this matter, as in most others, experience teaches.

January 15th.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., **must be** in our hands by the first of the month previous to publication.

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Original Contributions

A SKETCH OF JENNER AND HIS WORK*

J. H. ELLIOTT, M.B.

Edward Jenner, the son of Rev. Stephen Jenner, rector of Rockhampton and vicar of Berkeley, was born at Berkeley, Gloucestershire, May 17th, 1749. At the age of thirteen, he began his professional education under a general practitioner, Mr. Daniel Ludlow, and in 1770 we find his name in the list of students at St. George's Hospital. Shortly after he became a house pupil with John Hunter. With Hunter he had much in common. He had a fair knowledge of both zoology and geology, and he knew the rocks and animals of his own country thoroughly, and he gathered a splendid collection of fossils in the neighborhood of his own home. It was while with Hunter that he arranged and prepared the specimens brought him by Captain Cook in 1771, and he was offered the post of naturalist to the next expedition, which, however, he declined, preferring to settle down into country practice. For some years he lived the quiet life of a country doctor. With Hunter he kept closely in touch through correspondence, which covered not only questions of medicine, but covered a wide range of natural history. Hunter's replies to Jenner's medical queries were generally mixed up with requests for specimens or for observations to be made. For example:

"I have but one order to send you, which is to send every thing you can get, either animal or mineral or vegetable, and the compound of the two, namely, either animal or vegetable mineralized. I would have you do nothing with the Boy but

*Read before the Academy of Medicine, Toronto, March 6th, 1917.

dress him superficially; these Fungus's will die, and be damned to them, and drop off. Have you large trees of different kinds you can make free with?"

There were three children born to Jenner—Edward, Catherine and Robert. John Hunter stood Godfather to the eldest boy. The following is his reply to Jenner's request that he would undertake this office:

"Jan., 1789.

"Dear Jenner.

"I wish you joy; it never rains but it pours. Rather than the brat should not be a Christian, I will stand Godfather, for I should be unhappy if the poor little thing should go to the devil because I would not stand Godfather. I hope Mrs. Jenner is well, and that you begin to look grave, now that you are a father.

"Yours sincerely,

"John Hunter."

For ten years master and pupil corresponded, and their letters relate to all kinds of experiments on bats, fish, eels and hedgehogs. In a way, then, they were laying the foundation of the study of zoology and comparative anatomy. These letters are all very interesting, but one in particular, written by Hunter to Jenner, is well worth reading:

"Dear Jenner:

"I received yours in answer to mine, which I should have answered. I own I suspected it would not do; yet as I did intend such a scheme, I was inclinable to give you the offer. I thank you for your experiments on the hedgehog, but why do you ask me a question by way of solving it? I think your solution is just; but why think—why not try the experiment? Repeat all the experiments upon the hedgehog as soon as you receive this and they will give you the solution. Try the heat—cut off a leg at the same place, cut off the head and expose the heart—and let me know the result of the whole.

"I am, dear Jenner, ever yours,

"John Hunter."

This letter is almost classical among medical men, and, as far as that goes, it might well serve as the working basis for any one in practically any line of work—"but why think—why not try the experiment?"

An amusing anecdote is told of Jenner while at dinner with a number of men at Bath. The question arose whether the temperature was highest in the centre of the flame of a candle or at some distant point from its apex. Various opinions were given, but Jenner, with usual ingenuity, inserted his finger into the middle of the flame, but was compelled to withdraw it immediately. "There, gentlemen," he said, "the question is settled."

Edward Jenner, the man, was a little below the average height. He was robust, very active, well formed physically, and extremely neat in dress. He had a smooth face, and his hair was long and done up in a club, after the fashion of his time. He wore a broad-brimmed hat and high-collared, double-breasted coat. Jenner was especially fond of music. He was a master of the violin and could play the flute, but had a natural dislike for cards. He had a very vivid imagination and was unusually fond of poetry. In fact, Jenner was himself a poet, for in 1770, when twenty-one, he wrote:

"ADDRESS TO A ROBIN.

"Come, sweetest of the feather'd throng,
And soothe me with thy plaintive song:
Come to my cot, devoid of fear,
No danger shall await thee here;
No prowling cat, with whisker'd face,
Approaches this sequester'd place:
No schoolboy with his willow bow
Shall aim at thee a murd'rous blow.
No wily lim'd twig e'er molest,
Thy olive wing or crimson breast:
Thy cup, sweet bird, I'll daily fill
At yonder cressy babbling rill,
Thy board shall plenteously be spread

With crumblets of the nicest bread:
And when rude winter comes and shows
His icicles and shivering snows,
Hop o'er my cheering hearth and be
One of my peaceful family.
Then soothe me with thy plaintive song,
Thou sweetest of the feather'd throng."

This, of course, refers to the English robin, and not to the American bird, and as a whole, for an amateur, is a little gem.

Jenner's ability to observe was highly developed. It is interesting to note that he was the first man to associate calcification or thickening of the coronary arteries with angina pectoris. His description of the way in which his attention was drawn to this association is worth quoting. He says: "Another case (of angina pectoris) fell under my care. In that, after having examined the more frequent parts of the heart without finding anything by means of which I could account either for his sudden death or for the symptoms preceding it, I was making a transverse section of the heart pretty near its base when my knife struck something so hard and gritty as to notch it. I well remember looking up to the ceiling, which was old and crumbling, conceiving that some plaster had fallen down. But, on further scrutiny, the real cause appeared; the coronaries were become bony canals. Then I began a little to suspect. Soon after Dr. Paytherus met me with a case. Previous to our examination of the body, I offered to wager him that we should find the coronary arteries ossified. This, however, proved not to be exactly true; but the coats of the arteries were hard and a sort of cartilaginous canal was formed within the cavity of the artery, and there attached, so, however, as to be separable as easily as the finger from a tight glove. We then concluded that mal-organization of these vessels was the cause of the disease. At this very time, my friend, Mr. John Hunter, began to have symptoms of angina pectoris too strongly marked upon him; and this circumstance prevented any publication of my ideas on the subject, as it must have brought on an unpleasant con-

ference between Mr. Hunter and me. I mentioned both to Mr. Cline and Mr. Home my notions of the matter at one of Mr. Hunter's Sunday night meetings, but they did not seem to think much of them. When, however, Mr. Hunter died, Mr. Home very candidly wrote me immediately after the dissection to tell me I was right."

This account of his observations as to the cause of angina pectoris is only another instance of Jenner's ability to see clearly, and to correlate facts, which eventually led him to the discovery of the efficacy of vaccination.

Jenner gave his discovery freely to the world. We are told that the first manuscript of his "Inquiry" was submitted to the Council of the Royal Society, but was returned by them, as the evidence was not thought strong enough to warrant publication in their transactions. He therefore resolved to publish the paper himself, and it appeared about the end of June, 1798, entitled "Inquiry into the Causes and Effects of the Variolae Vaccinae, a disease discovered in some of the Western Counties of England, particularly Gloucestershire, and known by the name of Cow-pox."

Among the treasured volumes of this Academy is a beautiful copy of this pamphlet, one of Sir William Osler's many kindly gifts.

In 1799 Jenner published "Further observations on the Variolae Vaccinae or Cow-pox," and in 1800 "A continuation of facts and observations relative to Variolae Vaccinae or Cow-pox."

Jenner insisted upon giving the results of his observations unreservedly to the profession and the public. He was proof against the temptation to reap reward from the use of a secret remedy. One of his friends wrote him: "You should not have acted in the manner you have; your liberality and disinterestedness everyone must admire and extol, but you are sadly deficient in worldly wisdom. If you had undertaken the extinction of the small-pox yourself with coadjutors of your own appointment, I am confident you might have put £100,000 in your pocket and the glory be as great and the benefit to the community the same."

Jenner's discovery almost received universal recognition within ten years of its publication. In many countries it was taken up immediately. In America, the first vaccine was received in 1800 and used by Dr. Waterhouse, of Cambridge, Mass., on one of his own children. The following year some members of President Jefferson's family were vaccinated and the practice rapidly spread.

It was demonstrated in Vienna in 1799 and was taken up with enthusiasm in Switzerland, France, Italy and Spain. Jenner's treatise was translated into French in 1800. Five years later, Napoleon having recognized the great saving of life due to Jenner's discovery, ordered all soldiers who had not suffered from small-pox to submit to vaccination. He further issued a decree that 100,000 francs should be at the disposal of the Minister of the Interior for the propagation of vaccination. There was no more enthusiastic supporter of Jenner's discovery then the Empress of Russia, who urged her subjects to be vaccinated. She ordered the first Russian child treated to receive the name Vaccinoff and to be educated at the public expense. His influence and popularity abroad was instanced when the Emperor of Austria, the King of Spain and Napoleon himself, released at his request English prisoners of war.

The learned and scientific societies of the world recognized the value of Jenner's work, some 38 honoring him with their diplomas of Fellowship or with addresses, even the conservative University of Oxford conferring upon him an honorary M.D. degree, one but rarely given.

In the *American Journal of Numismatics,* 1894 and 1895, Dr. Storer gives a list with description of eleven medals presented to Jenner.

From the United States he received the diploma of the New Hampshire Medical Society and the degree of LL.D., Harvard.

As far as I can learn, the only recognition coming from Canada was the following address sent by the Five Nations Indians, assembled at Fort George, in Upper Canada, Nov. 8th, 1807:

"Brother, Our Father has delivered to us the book you sent to instruct us how to use the discovery which the Great

Spirit made to you, whereby the small-pox, that fatal enemy of our tribe, may be driven from the earth. We have deposited your books in the hands of a man of skill whom our Great Father employs to attend us when sick or wounded. We shall not fail to teach our children to speak the name of Jenner and to thank the Great Spirit for the bestowing upon him so much wisdom and so much benevolence. We send with this a belt and string of Wampum in token of our acceptance of your precious gift, and we beseech the Great Spirit to take care of you in this world, and in the land of spirits."

What vaccination meant to the Indians in North America can be pictured from this quotation from Catlin:

"Thirty millions of white men are now scuffling for the goods and luxuries of life over the bones and ashes of twelve millions of red men, six millions of whom had fallen victims to the small-pox, and the remainder to the sword, the bayonet, or whiskey."

Elsewhere the same author says:

"I would venture the assertion from books I have searched, and from other evidence, that of the numerous tribes which have already disappeared and of those that have been traded with quite to the Rocky Mountains each one has had this exotic disease in their turn, and in a few months have lost one-half or more of their numbers."

The following appreciation of Jenner's discovery is found in the pages of "The Gold Headed Cane":

"By this discovery (that the cow-pox protects the human constitution from the infection of small-pox), the beauty of the human race has been greatly improved and the vestiges of the small-pox have been almost driven away; for to see in our churches, our theatres, or any other large assemblage of people, a young person bearing the marks of that disease is now of very rare occurrence."

"Before the introduction of inoculation, small-pox killed one out of four of those whom it attacked; that method changed it into a disease by which one only out of several hundred perished. Vaccination, by the excitement of a very trifling disorder, imparted a charmed life, over which the small-pox gen-

erally seemed to have no influence; for its protecting power must be qualified. It is foolish to deny that the pretensions of this great discovery were, in the enthusiasm of the moment, somewhat overrated; but, after more than twenty years' experience, this consoling truth seems finally to be firmly established, that the number of those who take the small-pox after vaccination, and pass through a safe and harmless disease, is not greater than the number of those who used to die under inoculation, namely, one in three hundred."

The publication of this discovery entailed an enormous volume of correspondence (his postage came frequently to over a pound a day), and made heavy demands upon his time, and this resulted in forced neglect of his practice. A petition was presented to the House of Commons in 1802, pointing out that the new discovery was made known to all, and that instead of reaping any pecuniary benefit, he had been put to considerable expense. That almost single-handed he placed vaccination in an incontrovertible position. The House was asked to grant him such remuneration as in their wisdom should seem meet. The chairman of the committee stated in debate there was clear evidence that Jenner had been the means of saving 40,000 lives per annum in the United Kingdom alone. On this occasion £10,000 was voted. In 1807, a second vote of £20,000 was made.

The opposition to vaccination in Jenner's day was just as virulent as any we have had on the part of the anti-vaccinationists of the present. Caricatures, lampoons and pamphlets appeared on all sides and the most extravagant fears and beliefs found expression in public and private prints. One writer added to a treatise chapters upon "Modes of treating the Beastly new disease produced from Cow-pox" and wrote: "Small-pox is a visitation from God, but the cow-pox is produced by presumptuous man; the former was what heaven ordained, the latter is perhaps a daring violation of our holy religion." Another anti maintained that vaccination had been discontinued in one part of the country because those inoculated "bellowed like bulls," whilst another quoted a lady as saying that "since her daughter was inoculated she coughed like a cow, and has

grown hair over her body." Other remarks were "the damnest thing ever proposed and the most degrading relapse of philosophy that ever disgraced the civilized world."

Within a few years most gratifying reports were being made from all parts of the world, and a disease which claimed annually tens of thousands of victims was soon under absolute control.

Jenner's work was complete in itself and little has been added to his discovery. About the only weakness which a century of practice has found with his method is in his firm belief of the permanent protection received by vaccination. We now know that the protection is not complete, but is partial only; that it lessens as time goes on, and in the presence of endemic or epidemic small-pox, re-vaccination is necessary.

THE PREPARATION OF SMALLPOX VACCINE

By J. G. Fitzgerald, M.B.

Professor of Hygiene, and Director, Connaught Antitoxin Laboratories, University of Toronto.

The present method of obtaining vaccine virus or smallpox vaccine, as it is more commonly called, is possibly not entirely familiar to all those who are at times required to use it. The following description of the method may serve therefore to answer certain questions which may have arisen.

First of all, the virus is obtained from young, vigorous calves. These calves are as a rule a few weeks old. They are, when received at the Connaught Laboratories at the University Farm, kept under observation for one week, and carefully examined to make sure they are healthy. During the time they are in use, they are fed only on milk, and sterile sawdust is used for bedding purposes.

Immediately after the period of observation, the animals' hair is removed with clippers and the calf is put in a porcelain bath-tub and given a thorough scrubbing. This completed, the animal is now installed in a model sanitary room in which there are terrazzo floors, and tiled walls, and which is properly lighted, heated and ventilated.

The suite of rooms used for the purpose of housing the calves, vaccinating them, etc., consists of a preparation room, operation room and calf room. All have terrazzo floors, tiled walls, and every convenience found in a modern hospital operating-room. The plant was designed by, and built under the direction of one of the best known firms of hospital architects on the continent.

Having then a perfectly healthy calf, kept under ideal sanitary conditions, the third factor necessary is a supply of so-called "seed-virus." This is the vaccine virus which is used in the propagation of the virus from calf to calf. The seed-virus used in Connaught Laboratories is obtained from the Research Laboratories of the Department of Health of the City of New York. The Director of these Laboratories is Dr. W. H. Park, one of the leading Bacteriologists and Hygienists in America. This seed-virus is produced under the license of the Treasury Department of the United States, and the production is supervised by officers of the United States Public Health Service.

This seed-virus then is produced under the most ideal conditions. It may here be stated that calves are not susceptible to, nor can they convey, the causative germs of syphilis or leprosy, as is sometimes maintained by those who are opposed to vaccination.

The calf, before it is vaccinated with the seed-virus, is again carefully washed and the area to be vaccinated is shaved and cleansed, and just before the vaccination is done this area is covered with sterile towels. The vaccination of the calf consists in making a series of very light scratches and distributing the seed-virus over the area so prepared. In this operation, which is done under strict aseptic conditions, the same care is taken as that which is exercised by any surgeon in a modern hospital.

When the vaccination of the calf has been completed the animal is again put in the calf-room, fed with milk, carefully attended and kept scrupulously clean. The temperature of the calf is taken twice daily. On the fifth or sixth day after vaccination, the typical vaccine vesicles appear and the vaccine virus is then removed.

The calf is chloroformed, and after death the vaccinated area is carefully cleansed, and the pulp, consisting of the vesicles, vesicular fluid, etc., is removed.

A complete post-mortem examination is now made. Each of the internal organs is examined carefully and thoroughly, and if either the organs or the body of the calf shows any evidence of any diseased condition, the vaccine is of course discarded. This examination is comparable to the inspection of meat intended for human consumption which is made at the abattoirs.

The vaccine pulp is now sent to the University Laboratories for final preparation. The pulp is carefully ground with a mixture of sterile glycerine and carbolic acid. After grinding, the mixture is forced through a very fine bronze wire gauze. The resultant emulsion resembles cream, when the grinding has been completed.

The mixture of glycerine and carbolic acid very rapidly kills the bacteria which are present in the pulp, and in the course of several weeks (and before the vaccine is sent out) the vaccine is practically free from all bacteria. Elaborate tests are then made to determine whether any pathogenic germs remain in the virus.

Bacteriological cultures, aerobic and anaerobic, are made, and laboratory animals are injected with the vaccine and with fluid culture material. As soon as it has been definitely determined that there are no pathogenic bacteria in the virus, its potency or power to give satisfactory "takes" is ascertained by vaccinating rabbits with samples from each lot of virus. After these careful tests on rabbits and when typical "takes" have been produced, and all other tests are completed, the vaccine virus is ready for distribution. It is carefully filled into sterile capillary tubes, each capillary tube containing sufficient vaccine for one person, or it is put into sterile glass vials sufficient in amount for fifty vaccinations.

It should be remembered that while many tubes of vaccine virus contain no bacteria whatever, and no virus ever contains pathogenic bacteria, the presence of which can be determined by animal inoculation, still the most rigid requirements, such

as those of the United States Government (which exercises supervision over vaccine virus production), does not require that the virus be bacteria free. It is required that it have very few bacteria, that none of these be pathogenic, and that the virus itself gives satisfactory "takes." The vaccine virus, prepared and distributed by the Connaught Antitoxin Laboratories of the University of Toronto, more than meets these requirements of the United States Government.

Considerable notoriety is sometimes given, through paid advertising inserted by those opposed to vaccination, to the fact that vaccine virus may, and sometimes does, show the presence of staphylococci. When examined bacteriologically, such saprophytic staphylococci, which are always present in the skin, are sometimes present in the virus, but it should be remembered that, even if the virus were sterile, as, indeed, it often is, it is at once contaminated when placed on the arm by the cocci in the skin of the arm of the person who is being vaccinated.

The very careful post-mortem examination of the calf renders impossible the transmission of tuberculosis, just as meat inspection renders impossible the spread of this disease when calves' meat is used as food. It can be very definitely asserted, therefore, that not one of the diseases mentioned is ever transmitted by the vaccine virus produced by the method here outlined. It is sometimes argued that tetanus is caused by vaccine virus. This is impossible, because the animal inoculations would at once reveal the presence of lockjaw germs, and the culture fluids would indicate the presence of its toxin, since both of these are injected into guinea-pigs, which are very susceptible to lockjaw.

Furthermore, in a careful examination of several million capillary tubes in the Hygienic Laboratory of the United States Public Health Service, no tube of vaccine has ever been found to contain tetanus bacilli. Where tetanus follows vaccination, it is due to infection of the vaccination wound with dirt containing tetanus germs, just as tetanus was observed amongst men in the army whose wounds were infected with highly fertilized soil containing tetanus germs.

Finally, it has recently been alleged that diphtheria and

encephalitis lethargica (sleeping sickness), follow vaccination. There is not a vestige of sound evidence to support such statements. Both of these diseases have been observed in communities where smallpox did not exist and where vaccinations on a large scale were not being carried on. Diphtheria has been very prevalent in the City of Buffalo during the present fall, and various other American cities where smallpox has not been reported have also had an unusually large number of cases of diphtheria recently. Many cases of encephalitis lethargica have been reported in Winnipeg during the past two months, but neither smallpox nor general vaccination can be offered as an explanation for its occurrence there at this time.

Therefore it may be stated that none of the allegations of those opposed to vaccination, in regard to vaccine virus being responsible for the death or disability of those vaccinated, can be substantiated.

In conclusion, a word or two is necessary in reference to the reactions following vaccination. Vaccination, when it is successful, produces in those vaccinated the condition known as vaccinia or cowpox. Vaccinia is characterized by a local and general reaction, varying greatly in severity in different individuals, depending upon various factors, such as degree of susceptibility, whether previously vaccinated, potency of the virus, etc.

In typical primary vaccinia, the incubation period is four to five days, and immunity follows in from eight to twelve days after vaccination. If vaccination is performed on a person who is developing smallpox and who is in the last few days of the incubation period of the disease, vaccinia and smallpox both run their course in such a person at the same time. Vaccination, in the first few days after infection, may, however, result in protection being conferred, that is, the person has vaccinia, but not smallpox. After one successful vaccination or revaccination, the condition of vaccinia usually has a shorter incubation period, runs a more rapid course and frequently produces less severe local and general reactions. Persons who are naturally immune to vaccinia and to smallpox, or because of previous vaccination, are immune, when vac-

cinated afresh have only a slight local reaction. This reaction, when typical, is a definite indication of immunity, perhaps not complete or permanent, but sufficient for the time being.

The only other consequence of vaccination may be a simple trauma, where a slight abrasion of the skin is noted; and no immunity reaction, accelerated reaction or ordinary primary vaccinia follows the application of the virus. This is what occurs when the vaccination is not properly performed or when the virus is inert.

The character and severity of local and general reactions following vaccination vary greatly, as has been noted above, but it may be stated that in early childhood these reactions are practically always less severe than in later life. Therefor, primary vaccination should be done in children preferably during the first two years of life, when reactions are less severe and where care can be taken to avoid secondary infections of vaccination wounds.

Since vaccination is the best means now available for the control of smallpox, it is most desirable that all health departments and physicians initiate and continuously carry on a thorough campaign of education in regard to vaccination. In this way only can prejudice and superstitions in regard to the question of the merit of vaccination against smallpox be successfully overcome.

THE ETHICS OF COMPULSORY VACCINATION

P. H. Bryce, M.A., M.D., Ottawa, Ont.

Except in so far as the people must be protected by law against any ignorant, superstitious, careless or merely commercial person, who undertakes to practise the Healing Art, there is no limit in theory to the right of the individual to indulge in any "big medicine," from that of curing epilepsy through administering the powdered products of the skull of a murderer to the more refined, modern "cult," which refuses

to recognize that there is anything but mind, and therefore there is nothing to be vaccinated, or that if, as we are told, this poor old anatomy of ours be what is designated as *mortal mind,* it is nothing less than unholy to attempt to exorcise those demons who would devote it to the *experimentum crucis* of smallpox.

In "A Labrador Doctor," the autobiography of Dr. Grenfell, we have perhaps the true position of Medicine made as clear as possible by a man of the highest spiritual character. He says on page 413:

"The future of medical work depends on whether people want it and can arrange to get it paid for. If all the world became Christian Scientists, scientific—which we believe to be also Christian—healing will everywhere die a natural death, and possibly the people also."

Nevertheless, it must be made plain to the man on the street that, while there is present in epidemic form a disease of an intensely contagious nature, but of a mild type, similar to that described by Sydenham as occurring in the 17th century, and again by Van Swieten in the 18th, yet no responsible medical officer or general practitioner can afford to deal with it other than as smallpox, a disease *sui generis,* which has all the attributes of a specific disease.

It is, however, true that the medical practitioner of the past twenty years has seen a disease, having a history of fatal malignancy unequalled by any other, clothed in a garb of Mephistophelean benignity sufficient to seduce the unwary. No wonder, then, if in this age of easy virtue the purveyor of professional "sweetness and light" should agree with the whims of "milady" that it is improper to inject the "nasty stuff" into her solitary child; but urges that since there is this tyrannical law, the form must be gone through with, using if possible an emasculated vaccine and the law conformed to by a single scratch made on the thigh of the child.

Of course there may be no use in railing against this epicurean sentiment; but in it we find the chief basis of modern opposition to that vaccination, which has transmuted the features of the people of progressive countries from the repulsive

pitted masks of a century or more ago to those of an Adonis or of the fair tinted Venus of our lady of quality.

The "monist" or individual who lives only for himself, though protected by the laws of a complex, organized society, and who as a "pacifist" refuses to fight except for his own obsessions, though objecting to have the German heel on his neck, is, we find, the same person who demands his inalienable right to become a public nuisance in the sense that, living amongst half a million people, elbowing one another at every turn, he is willing to be the disseminator of smallpox, even though invading the natural rights of others by refusing to submit to the simple, scientific operation of vaccination. In the War the pacifist was kindly but effectively handled, and during a smallpox outbreak the "monist" must be also firmly dealt with, unless our practical, Anglo-Saxon commonsense has become so attenuated that, like nature's other spent energies, it will disappear in the discard. Nature, indeed, does from time to time seem to become disgusted and disposes of an individual or a people through the simple process of elimination of the unfit.

Remembering, however, that there is another side to the opposition to vaccination, it is only fair to inquire as to its logical basis. There are several reasons for it: 1st, That it does seem to the healthy person unnatural and unfair to subject him to inoculation with a real disease when no outbreak is present, which in rare instances has been the occasion of serious results; 2nd, That while the State makes it compulsory to submit to vaccination, it has not enacted that no person shall perform the operation unless he is specially certified as qualified to perform it.

So strongly convinced of this latter fact was the writer after his experience during the great Montreal epidemic that he prepared a Bill in 1886 and vainly urged its passage, under which every child in Ontario would be vaccinated at his home during the first year after birth by the public vaccinator, just as has been done during the past twenty years in England. To leave this simple yet delicate and scientific operation in the hands of an ordinary physician, who seldom has had to

deal with smallpox and who has not come to realize the possible results of vaccination, is to expose the most beneficent gift ever bestowed upon mankind to the danger of being cast down from its high pre-eminence by those privileged to become its dispensers. The practice of vaccination is regulated with the greatest care in England and elsewhere, and those officially responsible take every precaution not only to perform it with every scientific care, but also to warn parents as to the measures to be taken to prevent possible secondary infection.

Nevertheless, the untoward results of vaccination are everywhere so slight as compared with its inestimable benefits that these may be summarized as:

1. Vaccination during a century reduced the mortality from smallpox lower than that from any other of the infectious diseases.

2. The theory of immunity on which it is based has completely revolutionized the practice of medicine and effected results in anthrax, plague, diphtheria, and other diseases comparable to those of vaccination itself.

3. The infectiousness of smallpox is so much greater than that of any other disease in the eruptive class, that in every country experience has shown that while sanitation, isolation and disinfection play important parts in prevention, yet even the most complete sanitary organization has time and again utterly failed to eradicate the disease in a community without the aid of vaccination.

4. The remarkable fact exists that vaccination is adequate to protect against smallpox after exposure has taken place even up to the fourth day, and of reducing the severity of the disease to a non-fatal issue when vaccination runs concurrently with smallpox.

Reverting to the method of vaccination, it is necessary to insist that its utility depends upon its thoroughness. Present-day aesthetics have gone far in medicine; but the experience of the past is our only sure guide to determine the best practice

in vaccination. Dr. Morson, surgeon to the London Smallpox Hospital, has left the following table:

	Percentage of Deaths. 1835-1851.	1852-1867.
13,755 cases of smallpox, classified according to the vaccination found on each...	3,094 cases.	10,061 cases.
Stated to have been vaccinated, but no cicatrix	21.7 per cent.	39.4 per cent.
Having one vaccination cicatrix	7.6 per cent.	13.8 per cent.
Having two vaccination cicatrices	4.3 per cent.	7.7 per cent.
Having three vaccination cicatrices ..	1.8 per cent.	3.0 per cent.
Having four vaccination cicatrices	0.7 per cent.	0.9 per cent.
Unvaccinated cases	35.5 per cent.	34.9 per cent.

The conclusions are obvious and point to the just criticism regarding the inadequate protection of the single scarification, commonly practised to-day, resulting in the need for a second vaccination later in life. The need for trained public vaccinators is further illustrated by the fact that experience during thirty years has taught us that the constant supervision of vaccines as to their normal strength by public vaccinators, who watch the results *in corpore,* will alone serve to maintain the products of the laboratories preparing vaccines at a normal standard. While we may congratulate ourselves upon the benign type of smallpox, which has prevailed for twenty years, it will be unfortunate if the lessons which a century has taught us are forgotten; while the glory of the experimental method, which Dr. Edward Jenner demonstrated, must not be allowed to be dimmed through either social obscurantism or professional dilettantism.

VACCINATION

The Toronto Medical Health Office has issued the following suggestions with reference to vaccination against small-pox:

Vaccination should *not* be performed by cross-scratching or scarification, but by the method described below:

Preparation of the Arm.

The skin of the upper arm in the region of the depression formed by the insertion of the deltoid muscle, should be thor-

oughly cleansed with soap and water if seen to be not clean, and in any case with alcohol or ether on sterile gauze. After evaporation of the alcohol, or ether, a drop of the virus should be placed on the cleansed skin. To expel the virus from a capillary tube the ends should first be broken off and one end of the tube should be pushed through the small rubber bulb which accompanies it and the virus expelled on to the cleansed area. The hole in the bulb should be closed with the finger as the bulb is compressed to expel the virus.

Recommended Method of Vaccination.

The under surface of the arm is grasped with the vaccinator's left hand so as to stretch the skin where the virus has been placed. The skin is kept thus stretched throughout the process.

Method of Incision or Linear Abrasion.

By means of a needle or other suitable instrument held in the right hand, one or two scratches *not deep enough to draw blood* are made through the drop of virus, one-quarter inch long and parallel with the humerus. The virus is then gently rubbed in with the side of the needle or other smooth, sterile instrument. Some blood-tinged serum may ooze through the abrasion as the virus is rubbed in, but this should not be sufficient to wash the virus out of the wound.

Expose the arm after vaccination to the open air, but not to direct sunlight, for fifteen minutes before the clothing is allowed to touch it.

Care of the Vaccination Wound.

The original vaccination wound should be made as small as possible, and all injury to the vaccinated arm should be guarded against. Any covering which is tight, or more than temporary, tends to macerate the tissues during the "take." This is to be avoided. *No shield or other dressing should be applied at the time of vaccination.* Customary bathing and daily washing of the skin may be continued, so long as the crust does not break. The application of moisture to the vaccinated area should not be enough to soften the crust.

If an early reaction of immunity is to be watched for, the patient should report on the first, second, fifth and seventh days after vaccination. Otherwise, the patient should report on the ninth day, or sooner if the vesicle, pustule or crust breaks. Every effort should be made to prevent such rupture. However, should the vesicle, pustule or crust break, and the wound thus become open, daily moist dressings with some active antiseptic, such as mercuric chloride or dilute iodine (one part tincture of iodine in nine parts of water) should be applied. Under no circumstances should any dressing be allowed to remain on a vaccination wound longer than twenty-four hours, and no dressing should be applied so long as the natural protection is intact.

Although apparently trivial, vaccination is an operation which demands skill in performance and care in after-treatment in order to avoid the rare, but serious complications. For the prevention of these complications vaccination (*a*) should be performed with strictly aseptic technic, (*b*) should cover the smallest possible area for each insertion, and (*c*) should be treated without any covering which permits maceration.

Selected Articles

A MARVELLOUS BEQUEST TO MEDICAL RESEARCH

The entire medical world was stirred to its depths when, on Christmas Day, Mr. John D. Rockefeller gave to mankind a Christmas present of $100,000,000—half to the General Education Board of the United States to raise the salaries of college professors, and half to the Rockefeller Foundation to aid in its work of combating disease through improvement of medical education, public health administration and scientific research. It is estimated that Mr. Rockefeller's public gifts now approximate $450,000,000.

While leaving the General Education Board the task of selecting the colleges which shall receive awards for their teaching staffs and the amount each is to receive, Mr. Rockefeller urged that the principal as well as the income be used "as promptly and largely as may seem wise."

The trustees of the Rockefeller Foundation also are authorized to utilize both the principal and income of their gift, in connection with which Mr. Rockefeller added that if the board "should see fit to use any part of this new gift in promoting medical education in Canada, such action would meet with my cordial approval." Such action will be taken, according to Dr. George E. Vincent, President of the Foundation, who stated that the trustees would be asked to set aside $5,000,000 for this purpose.

It is known that for a long time Mr. Rockefeller has been interested in the problem of aiding teachers in the country's higher institutions of learning in meeting the increasing cost of living. Among the 600 colleges in the United States, campaigns are under way to raise approximately $150,000,000

for this purpose, and while in making his gifts Mr. Rockefeller does not specify that institutions receiving a share shall contribute a sum themselves, this has been the general practice of the General Education Board.

In commenting on the gift, Dr. Wallace Buttrick, President of the Board, said that since the end of the war it had received from colleges and universities applications for aid "which would practically exhaust the working capital of the Board." He added that Mr. Rockefeller had recognized the emergency which exists.

In transmitting his gift to the Rockefeller Foundation "to promote the well-being of mankind throughout the world," Mr. Rockefeller imposed no restriction, although he expressed special interest "in the work being done throughout the world in combating disease through the improvement of medical education." Alluding to a gift of $20,000,000 for this purpose which he made to the General Education Board this year, he said:

"My attention has been called to the needs of some of the medical schools in Canada, but as the activities of the General Education Board are by its charter limited to the United States, I understand that gift may not be used for Canadian schools.

"The Canadian people are our near neighbors. They are closely bound to us by ties of race, language and international friendship, and they have without stint sacrificed themselves and their youth and their resources to the end that democracy might be saved and extended. For these reasons, if your Board should see fit to use any part of this new gift in promoting medical education in Canada, such action would meet with my cordial approval."

In asserting that $5,000,000 would be set aside for Canadian schools, Dr. Vincent said:

"From this sum appropriations will be made by the Foundation to medical schools on condition that they raise additional funds from other sources. It is hoped that $5,000,000 thus employed by the Foundation at this time will give a distinct impetus to the development of medical education in Canada

"The new gift will also enable the Foundation to extend work already in progress in the medical education and public health in many parts of the world."

It is understood that the bequest of $5,000,000, and which may possibly be increased to $10,000,000, to Canada is due largely to the efforts of Dr. Alexander McPhedran, who has been for so long actively identified with the teaching of medicine in the University of Toronto.

THE CALL TO SERVICE

The war has taught us the true meaning of service, and the golden rule is still unqualified as the best precept to a higher life. The Christmas season just past has shown that there were more people willing to serve than ever before.

We are therefore led to believe that many women, who love suffering mankind, will devote themselves to the nursing profession. In hospitals throughout the length and breadth of the land the cry goes up from thousands of sufferers—"Come and help us."

The Mental Hospitals in Ontario are greatly in need of help. Young women, in years past, when deciding what hospital they should enter to study nursing, have too frequently given mental hospitals scarcely a thought. The age-long tradition of the "lunatic asylum" as a place of torture, torment and violence is not yet dead. And yet, how different are the facts of the case. Ten modern, thoroughly equipped hospitals in Ontario are maintained to give treatment to persons suffering from mental disease. Nurses are urgently needed to aid these sufferers in restoring to them their normal mental health. Young women, who desire to help these mentally sick persons, and who come to their aid, will have a satisfaction that no other pursuit on earth can give them.

In all the Ontario Hospitals, a thorough course in mental and general nursing is given, extending over a period of three years. A post-graduate course of six months' duration is given to study certain classes of disease which are not commonly

seen in mental hospitals. Graduates of our Training School for Nurses are second to none, in the private practice of their profession, and they are, moreover, constantly in demand to nurse mental cases privately.

We therefore appeal to young women who hear the call to service, to consider the needs of mental hospitals, to remember that the mentally afflicted who come to us for treatment, need your help; they need to be nursed back to health and strength; they need the understanding heart and the healing touch. If you hear the call, come.

KINGSTON OPPOSES DIVISION OF QUEEN'S MEDICAL SCHOOL

Dr. J. Cameron Connell, dean of Queen's Medical College who for the past seventeen years has administered the affairs of that school, which is now second only to the medical schools of Toronto and McGill with their larger financial resources, is now fighting against the proposal to divide the Queen's medical training between Kingston and Ottawa. The proposal is to give the Queen's clinical teaching in the big hospital the City of Ottawa is about to build, and to retain the first three years' teaching in the parent institution at Kingston. If the proposal is put into effect it will create a precedent in medical training in Canada.

Dean Connell, who himself is a product of Queen's in arts and medicine, and a specialist, holds that Kingston hospitals can give sufficient clinical training to medical students. At present the Kingston hospitals have about 1,300 permanent beds, and besides the city has a number of smaller institutions that yield clinical work for students. All these institutions are within a short distance of the university. Some of the best medical colleges in the United States, notably Ann Arbor, Michigan, are located in towns of under 15,000 population, while Kingston has about 25,000, and being a military, penal, marine and insane asylum centre, it offers exceptional advantages. Dean Connell directs attention to the fact that

although Laval medical college is situated in Montreal, and Manitoba medical college is in Winnipeg, these two schools in large centres of population are not classed any higher by the American Medical Association than Queen's. Next session, when Queen's six-year medical course goes into effect, it is expected that the Kingston college will receive "A" classification along with Toronto and McGill.

Dean Connell has outlined what Queen's needs to make it one of the most efficient medical schools on the continent, and, in a nutshell, it is financial assistance. Strange to say, Queen's medical college has had to be practically run by its staff, as during the year ending the 31st of March, 1919, it received only $2,000 from the university funds, although according to the amended constitution put into effect after Queen's was separated from the Presbyterian church it was to participate in the university moneys.

A proof of the high standing of Queen's medical college, Dean Connell points out, is its attendance. It ranks third in Canada, next to Toronto and McGill. This session it has eighty first-year students and probably twenty more were refused admission for one reason and another.

The idea of removing the clinical teaching to Ottawa is naturally unpopular in Kingston, and the civic authorities as well as Queen's medical faculty will no doubt do everything possible to prevent any division. The enlargement of the Kingston General Hospital with civic, district and Government aid to the extent of probably three-quarters of a million dollars, is the scheme receiving attention.

Queen's has furnished deans to several medical colleges. The late Dr. McLean, of Ann Arbor, Mich., a great surgeon, was a Queen's graduate, as also were the late Dr. R. A. Reeve, of Toronto, Dr. Chown, of Winnipeg, and Dr. Connell, of Kingston. The medical profession of Ottawa is composed largely of Queen's men, who are also to be found throughout the country.

TO DISTRIBUTE FEDERAL GRANT TO PROVINCES

The Federal Department of Health announce that Order-in-Council has just been passed providing for the distribution of the Federal grant of $200,000, which was placed at the disposal of the Federal Department of Health for combating venereal disease in co-operation with the Provinces. Of this sum, $180,000 will now be distributed to the Provinces of the Dominion, according to their population, viz.:

Ontario	$57,473 68
Quebec	47,388 80
Manitoba	12,611 20
Nova Scotia	10,573 86
New Brunswick	7,517 83
Saskatchewan	15,561 63
Alberta	11,979 62
British Columbia	14,628 19
Prince Edward Island	1,915 11

It is further provided in the Order-in-Council that payments to the Provinces be made in two equal amounts. The first payment on application of the Government of each several Province, submitting a satisfactory outline of its venereal disease campaign, and undertaking to provide and expend out of its own moneys at least an equal amount on this work.

The second payment to be made six months after the first, if the Federal Department of Health is satisfied that satisfactory work is being done by the Province in carrying out this campaign.

In connection with this grant, the Provinces agree to take the following action:

Approved clinics shall be established at various centres, with specialist physicians in charge of treatment and assistants sufficient to carry on the work. Treatment shall be given free to the patients, and hospital beds will be provided for indoor cases. Diagnostic laboratories, or parts of other labor-

atories, must be set aside for venereal disease work at different centres to be named by the Provinces.

It is also provided that efficient treatment must be given to all inmates of jails and places of detention.

The agreement, in addition, provides that a specialist officer on venereal disease diagnosis, treatment and propaganda, shall be placed in charge of inspection and direction of these clinics, jails and places of detention, venereal disease laboratories, and also in charge of propaganda in each of the various Provinces.

The work of combating veneral disease, will, as a result of the efforts of both the Federal and Provincial Departments of Health, be prosecuted with the utmost vigor, and will undoubtedly be productive of the most beneficial results.

Biography

*A BIOGRAPHICAL NOTICE OF LT.-COL. ROBERT WILSON, C.A.M.C., C.E.F., BOARD OF CONSULTANTS, D.G.M.S.

Robert Wilson was born in Constantinople on Oct. 10th, 1866. His father, Robert Wilson, was a native of Stirling, and his mother, of Dumfries, Scotland. His father, for many years a marine engineer in the Ottoman Service, had settled with his wife in Constantinople. They had six children, four boys and two girls, of whom Robert was the fourth child. He was a highly strung, delicate lad, in consequence of which, and also owing to the lack of a local English school, he received only a limited amount of home teaching. He studied Turkish with a native priest, and also acquired a moderate knowledge of colloquial Greek.

In 1878 the family were forced to flee from Constantinople owing to the outbreak of a rebellion. They spent the next two years in Malta, then returned to England, finally settling in Manchester, where Mr. Wilson obtained a position in a large engineering concern. Here Robert became a pupil in Mr. Lawson's school, and obtained his first real teaching. He had a good memory, and was a keen student, anxious to catch up to the standard of boys of his own age. That he was successful in so doing is shown by the fact that he carried off the chief prize at the end of his second year. He was particularly interested in mechanics, but also showed great aptitude for languages. About this time he became seriously ill with what was diagnosed as small-pox. His mother, fearing his removal to a hospital, quarantined the wholy family and herself nursed him back to health. Some weeks afterwards he returned to his school, but on hearing the reason for his long absence the head master refused to permit his return. For the next month, therefore, he attended the Manchester night school, at the end of which time he gained the Queen's Prize. It was then decided that he should enter the same engineering works

*Prepared by Major J. D. Morgan, M.D., Ross Pavilion, Royal Victoria Hospital, Montreal.

in which his father was employed, and here he went through his apprenticeship in mechanical engineering.

In 1886 he came to Canada with his father, where both had obtained positions with the Grand Trunk Railway. After a time in the engineering shops Robert was moved into the General Office of the same company. It was while thus employed that the idea of studying medicine first occurred to him. With characteristic energy he put in three months of hard study and passed the preliminary Quebec Board examination. He graduated in medicine from McGill in 1893. After these years of strenuous study his mother insisted that he should take a prolonged holiday. He, therefore, passed the following year in New Hampshire, in comparative rest and quiet.

On his return to Montreal he took up general practice in Point St. Charles, and was appointed one of the surgeons to the Grand Trunk Railway.

In his spare moments he studied French and German, and even added to his previous knowledge of Italian. For a number of years he was professor of Pharmacology and Electro-therapeutics at Bishop's College.

In 1895 Roentgen made known his discovery of the X-Rays. Robert Wilson at once became greatly interested, and set to work to make the necessary apparatus to produce the rays. Early in the following year he succeeded in doing so, and his claim to have been one of the first, if not the first, to take an X-Ray picture in America, was well founded.

During these years he did considerable other experimenting, his knowledge of electricity and mechanics standing him in good stead. For years he was also intimately associated with the Western Hospital, not only in a medical capacity, but also with the administrative activities of the hospital.

In addition to his scientific work, Robert Wilson was well known in many other spheres of life. He was a member of the University Club of Montreal, of the American Roentgen Ray Association, of the Medico - Chirurgical Society and Astronomical Society of Montreal, and of the Roentgen Society of London, England. He was also a well-known Mason, being a member of Argyle Lodge, No. 65, A. F. and A. M., and was

A District Deputy Grand Master of the Grand Lodge of Quebec. He was a member of St. Mathew's Presbyterian Church. He married Miss Helen Whitney, of Oshawa, Ontario, on July 23rd, 1906.

Some years ago he joined the Engineering Corps of the Canadian Militia. When the recent war broke out he offered his services to the medical authorities, and proceeded overseas with the First Canadian Contingent as an X-ray specialist, with No. 1 General Hospital. While his unit was still in England he was instructed to purchase what X-ray apparatus was necessary for the various Canadian hospital units then overseas.

In the spring of 1915 he crossed to France with his unit and remained with them at Etaples about a year. He was then recalled to London, to the office of the D.G.M.S., raised to the rank of major, and given the task of organizing the X-ray department for all the Canadian hospitals, both in England and France. He was also authorized to organize a department of physio-therapy, which included radio-therapy, electro-therapy, hydro-therapy and massage. The first department of this kind was established in the Canadian Special Hospital, known also as the Granville Hospital, at Ramsgate. Here he also established a training school for those wishing to learn massage. By this means in a comparatively short time sufficient numbers of masseuses were available to supply the need for such treatment in the other Canadian hospitals in England.

Major Wilson also initiated the formation of a collection of lantern slides prepared from X-ray plates or photographs of cases of scientific interest in the hospitals in England or France. By this means a most interesting and valuable collection of several thousand slides has been prepared for the Canadian War Museum in Ottawa.

In the buying of the expensive but necessary electric apparatus for the various base hospitals his knowledge of mechanical engineering was of the utmost value. In fact, he was able not only to suggest improvements in machines already on the market, but he even designed some entirely new methods of treatment. An example of the former is the Wilson Polystat, of which Mr. Dean, the manufacturer, says in his catalogue:

"The innovations which we propose to briefly describe are the contributions of our Canadian friends, who, through their expert adviser, Major R. Wilson, C.A.M.C., have shown us the way to obviate many of the inherent defects of pre-war apparatus."

Major Wilson was also the first to suggest the use of tungsten, cored into carbon shells, for the production of violet and ultra-violet rays.

In 1917 he was recalled to Canada to organize the departments of the physio-therapy in the military hospitals in Canada. He was given the rank of lieutenant-colonel and appointed to the Board of Consultants of the A.M.C. In carrying out his duties he made several trips from coast to coast.

In Toronto he established the military school of physiotherapy, where specialists were trained for all the military hospitals. This is the only institution of its kind in America. He also devoted considerable attention to the establishing of a Dominion-wide association for those engaged in the practice of massage.

Like many another of the early workers with X-rays, Dr. Wilson developed a severe dermatitis of the hands. Unsuspecting the cause for some considerable time, he continued his work with the dangerous radiations. When at length the true nature of his condition was realized it was too late to hope for recovery. For years he suffered uncomplainingly, though seemingly, at times, the slightest touch would cause him the greatest agony. Dr Dodd, for years a sufferer from the same condition, has left a record of what he himself endured. He wrote: "The martyrdom of these men who began their X-ray investigations soon after its discovery has been a very real one. The lesions which have resulted have been in many cases ineffaceable and have entailed an immense amount of physical and mental suffering." Dr. Parker, of Boston, has also written: "From my experience and personal communications from patients, I believe that the agony of inflamed X-ray lesions is almost unequalled by any other disease. While morphia has been used in some cases, it is really surprising to find how many have borne their pain without resorting to its habitual

use." Wilson never used it. While in France his condition became aggravated, and it was definitely determined that malignancy had developed. The terminal phalanges of one of his fingers was amputated in 1916, giving him some temporary relief.

Never a strong man, the hard work of the past few years taxed his vitality very considerably. For some months prior to his death he had suffered with abdominal pains, and malignant metastases were feared. He was determined, however, not to give up until his task had been accomplished. It was only when he felt that this had been done, and on the urgent advice of his medical friends, that he consented to undergo a necessary operation. He entered the St. Andrew's Military Hospital on October 28th. The operation was performed the following day, and the temporary diagnosis of malignant involvement of the colon was confirmed. Hopes of his ultimate recovery were, at first, maintained, but his weakened constitution could not withstand the shock. He died on November 1st. The body was brought to Montreal, was given a military and Masonic funeral, and was buried in the Protestant Cemetery. Another name has been added to the long "roll of honor" of those who have given themselves for science and humanity.

SIR THOMAS R. FRASER PASSES AWAY IN EDINBURGH

Sir Thomas Richard Fraser, former president of the Royal College of Physicians of Edinburgh, died on January 5th.

Thomas Richard Fraser was born in Calcutta, February 5, 1841. He was educated in the public schools of Scotland and the University of Edinburgh. After graduating with the degree of Doctor of Medicine he entered practice, but later assumed public office as consulting physician for a number of medical associations. He became professor of Materia Medica of the University of Edinburgh in 1878, holding the position until his death. He was president of the Royal College of Physicians from 1900 to 1902. He is survived by his widow, four sons and three daughters.

Obituary

CAPT. J. FRASER RICHARDSON DIES ON AFGHAN FRONTIER

Mr. Robert D. Richardson, of 103 St. Clair Avenue West, Toronto, has received a cable notifying him of the death of his eldest son, Capt. J. Fraser Richardson, officer commanding the 49th Indian General Hospital in Afghanistan.

Capt. Richardson was transferred from Mesopotamia to the Afghan frontier in October, since which time his parents have had no communication from him.

Capt. Richardson had been engaged a number of years in the East in medical work, having been in charge of a missionary hospital on the Afghan frontier before the war. He served in civilian life under the Church Missionary Society, and it was due to his knowledge of the language and the people that he was chosen to command the 49th Indian Hospital and a large military hospital in Mesopotamia, where he was stationed when he first enlisted.

Capt. Richardson was thirty-five years of age, was born in Winnipeg, and was a graduate of London, England, University. He was the grandson of the late Dr. James Richardson, of St. Joseph Street, Toronto.

DR. MOLSON, MONTREAL, DEAD

Dr. William Molson, in practice at Montreal for fifty years, died on January 4th after a prolonged illness. He was a classmate of the late Sir William Osler, with whom he kept up a close friendship.

DEATH OF DR. E. W. SPRAGGE

Dr. E. W. Spragge, 7 Prince Arthur Avenue, Toronto, passed away at his home on the afternoon of December 31st. The doctor has been ill for over two years, having suffered from a stroke of paralysis. Dr. Spragge was one of the most highly respected physicians in Canada. For forty-seven years he held the position of chief medical officer to the Toronto Police Force, and for many years a similar position with the Canadian Pacific Railway. He was always keenly interested in all kinds of sport and was beloved by one and all.

SIR W. OSLER'S MEMORY IS HONORED AT OXFORD

Christ Church Cathedral, Oxford, was crowded on January 1st at the memorial services to Sir William Osler. The whole medical faculty of the University was present, as well as many other representative men of Oxford and several leaders of the medical profession in London. The principal mourners were Lady Osler, Mr. and Mrs. Frank Osler, brother and sister-in-law; Mrs. Chapin, sister of Lady Osler; Dr. Gwynn, nephew; Dr. Mallach; Mr. and Mrs. and Miss Emmons; Col. Donald Armour. Others attending were Sir George Perley, Sir George Parkin, Donald MacMaster, Dr. George Dadgerow, Colonel Chisholm, Lady Strathcona, Lord and Lady Harcourt. Sir Clifford Allbut, regius professor of physics at Cambridge University, gave further testimony to his admiration of Sir William Osler by his presence and the Royal College of Surgeons and Royal Society of Medicine were represented by their presidents. The remains of Sir William Osler will now be conveyed to London for cremation privately at Golder's Green.

The Physician's Library

Plastic Surgery—Its Principles and Practice. By John Staige Davis, Ph.B., M.D., F.A.C.S. P. Blakiston's Son & Co., Philadelphia.

This excellent book comes as a response to the demand of all military surgeons for a reference work from which assistance might be gained in facing the varied problems resulting from gunshot wounds. The ordinary text books and system contain little more than general principles, which are of little value when the occasion is urgent and one's experience small. In this book the author has most successfully attempted to add to general principle a series of practical examples which at once make the work of value to the operating surgeon.

Particular attention must be drawn to the chapters on the treatment of wounds, the transplantation of skin, the transference of flaps, the treatment of scars, the surgery of the face and jaws, and the surgery of the nose. These chapters will be found to cover the ground as never before done in text-book form.

Besides dealing with problems in plastic surgery arising from wounds, the book also covers those conditions seen in civil practice, such as deformities of the mouth, hypospadias, deformities of the eyelids, malformation of all kinds. No other book deals so fully with these subjects.

Two features of the book merit special mention. The first is the excellence of the nine hundred illustrations and the second is the completeness of the bibliography appended to each chapter.

The book comes at so opportune a moment and so completely fills a long felt want that it will undoubtedly receive a hearty welcome.

Personals

LT.-COL. BOWIE RETURNS

After five years' service overseas with the Canadian Army Medical Corps, Lt.-Col. Robert A. Bowie, M.D., C.M., late Consultant-in-chief in Surgery at Canadian Headquarters in London, reached his home again on November 12th.

While in England, Lt.-Col. Bowie's services had been brought to the notice of the Secretary of State for War, and on reaching France he was several times mentioned in Field Marshal Haig's despatches.

Lieut.-Col. Bowie was considered one of the best surgeons in the Overseas Department of the Canadian Army Medical Corps, and it was consequently no surprise when he was recalled to England from France to assume the important post of Chief of the Surgical Division in the Ontario Military Hospital at Orpington. Here he continued during the period of demobilization until last summer, when he was appointed Consultant-in-chief in Surgery at the Canadian Medical Headquarters in London.

CANADIAN DOCTOR REPRESENTATIVE AT INTER-ALLIED COMMISSION

It was announced on Dec. 6th that Dr. J. C. Connell, dean of the medical faculty of Queen's University, also president of the Medical Council of Canada, had been invited by the United States government to join a medical commission from Great Britain and France next April. The commission is to meet in Washington, D.C., and then attend the annual meeting of the American Medical Association in New Orleans. After-

wards they will inspect various American medical schools. The object of the commission is to further inter-allied medical reciprocity in registration.

Dr. R. J. W. Brooke, 469 Pape Avenue, was recently appointed Associate Coroner for the City of Toronto.

Dr. Arthur B. James announces to the Medical Profession the opening of an office at 48 College Street, Toronto, for the exclusive practice of Urology and Syphilology.

Dr. Fred E. Watts wishes to announce that, on his return from Service Overseas, he has resumed his practice of General Surgery at 155 Bloor Street East, Toronto.

Dr. Price Brown arrived in Los Angeles several weeks ago. He expects to spend the winter in California; and on his return, make his home in Toronto; but he will not resume the practice of his profession.

Dr. L. B. Williams wishes to intimate to the profession that he is limiting his practice to such conditions (impaired metabolism) as seem best amenable in the major part of treatment to electro therapy. 1725 Dufferin Street, Toronto, Ont.

Dr. E. Ryan, of Queen's University, has been elected president; Dr. Forster, of Toronto, secretary, and Dr. Robinson, of London, and Dr. Mitchell, of Brockville, members of the executive of the Medical Psychological Association organized by the superintendents of Ontario Hospitals and others engaged in the study of mental diseases.

Dr. W. Herbert Carveth desires to announce to the Medical Profession that he has resumed Civil Practice, and will devote his attention to the administration of Anaesthetics. All modern methods of Anaesthesia used, such as Gas-Oxygen, Intratracheal, Oil-Ether Colonic, and Insufflation Suction Anaesthesia for tonsils, etc. College and Huron Streets.

Publisher's Department

COMMON COLDS

It is not often that the doctor is consulted, or his professional services enlisted, for the treatment of acute coryza—popularly known as "cold in the head"; the laity is accustomed to apply to the druggist for "Rhinitis Tablets," or one of the many quinine combinations that are said to work wonders in the way of magic cure.

The public has assumed that the doctors do not view cold in the head as a morbid condition of sufficient moment to warrant scientific notice, and has learned to treat itself, as best it can, for this every-day ailment.

If we pay serious attention to the bacteriologist, a common cold becomes an important pathologic condition, for may not the bacillus, whose invasion of the system has caused symptoms as headache, fever, hypersecretion from the intra-nasal membrane, lumbar pains and general malaise, transform the field of its activity into favorable ground for the entrance and development of even more virulent germs?

If we reject the germ theory and attribute "catching cold" to undue exposure of the body to drafts or dampness, while in a state of lowered resistance, we still recognize that the condition is one of considerable consequence, since its tendency is to further vitiate an already impaired economy and invite more serious illness.

Try as we may to justify any form of remedial procedure on scientific grounds, we cannot get away from the fact that our practise is empiric. That which our experience proves to be effective and dependable is what we employ continuously, whether we can satisfy ourselves of its scientific application or not.

Now, the experience of many doctors during many years

of observation, shows that the simplest, most direct and positive medication for a cold is castor oil—a liberal dose as early as possible. The patient must, of course, be protected against drafts of cold air and should be kept quiet until the bowels are freely moved two or three times.

Ordinary castor oil is not easy to take when one is well; it is next to impossible for one to retain a dose when the economy is deranged, the stomach rebelling and ejecting the nauseous draught as quickly as received.

Laxol "stays down" because every objectionable characteristic of the oil is negatived; it "goes through" the alimentary tube as it should, because it is essentially pure, prime castor oil; it brings about early recovery from cold because it relieves congestion and removes toxic matter without taxing the patient's strength or further lessening the body's resistance.

FEBRUARY CALCIDIN MONTH

February is Calcidin month. While it is true that Calcidin (Abbott) is widely used throughout the year, it is true, as well, that February brings such an abundance of colds, sore throats and coughs that the call for this popular remedy is unusually large.

The reason for the efficiency of Calcidin (Abbott) is the large percentage of free, available iodine which it releases. Few, if any, combinations contain 15 per cent. by weight of available iodine. This is the percentage, by test, in Calcidin.

From the coupling of lime and iodine, in Calcidin, is obtained a compound which yields iodine readily in the presence of the gastric acid, the action being found most satisfactory in all conditions where the systemic effect of iodine is desired.

In catarrhal disorders of the respiratory tract, in coughs, colds, sore throat, croup, bronchitis, pneumonia and influenza, Calcidin has been found of great value by a host of physicians who report that it meets requirements perfectly.

Almost every druggist is stocked with Calcidin. It is easily obtainable on prescription, or from the home office and convenient branch points of the Abbott Laboratories.

A SPECIALLY HIGH-GRADE SECURITY

The debentures issued by our long-established Canadian mortgage corporations have an enviable record as securities of the most gilt-edged sort. The Dominion and Ontario Governments accept the debentures of many of these companies as a part of the deposit required to be made by insurance companies, and we need scarcely say that only securities of the very highest class are accepted by the experienced officials of the Insurance Department.

The Canada Permanent Mortgage Corporation was one of the first of these companies to have its debentures so accepted. It is an institution which will bear the closest investigation. It may be said to be Canada's premier mortgage company. Founded in 1855, it is twelve years older than Canada. Its paid-up capital and reserves amount to $11,672,509.77. for years a quarter of a million dollars have been annually added to the reserve fund after paying very satisfactory dividends to the shareholders. What more satisfactory investment can a physician or any professional man have than a debenture taking priority of this large amount of shareholders' funds? These debentures may now be had to pay a specially attractive rate of interest. Enquire about them.

VACCINES IN THE TREATMENT OF INFECTIONS

Sir A. E. Wright (*The Lancet*, March 29, 1919), in speaking of the success from the use of vaccines in the treatment of infections, says:

"The most dramatic and convincing—convincing because here no other therapeutic measures are employed as adjuncts—are the successes obtained in streptococcal lymphangitis, in streptococcal cellulitis—I am thinking of those cases which have already been incised without striking benefit—and in conjunctival phlyctenules."

Clinical observations have also demonstrated that in addition to specific immunizing responses obtained from vaccine injections, collateral non-specific immunizing responses also

develop. By employing mixed vaccine this collateral non-specific immunizing action is also taken advantage of.

If any one doubts the efficiency of mixed stock vaccines in the treatment of extensive acute infections the best way for him to decide the question for himself is to treat a few cases of pneumonia, cellulitis, etc., by giving vaccines early and repeating them at daily intervals for several doses. After seeing the results that will surely follow he will no longer be concerned about the criticisms applied to employing mixed vaccines.

The practicability of employing polyvalent mixed vaccines applies in the treatment of influenza, measles, scarlet fever, and many of the complications following these acute infections. Bacterial examination in these cases has conclusively shown that the fatal terminations and serious complications are really due to pneumococci, streptococci, staphylococci, influenza bacilli and possibly a few other organisms responsible for respiratory infections. By employing polyvalent mixed vaccines in the treatment of these cases the immunizing influences of the vaccines guard the patient against the ravages of these complicating infecting organisms, and consequently greatly aid in hastening recovery.

In our efforts towards serving the practising physician by making vaccine therapy readily available, we have always kept the fundamental importance of polyvalency and proper combination of organisms in a vaccine to meet certain conditions in mind. Our long extensive experience along this line has equipped us with a knowledge of selecting, isolating and culturing strains of organisms which make efficient vaccines.

Service is our aim, and this can only be accomplished by making thoroughly efficient vaccines. In this we feel that a marked success has been attained.

Sherman's vaccines, on account of their efficiency and uniformity of therapeutic action, have gained a reputation which made them the pioneer in the practical field of therapeutic immunization and firmly established them as a regular therapeutic agent in the hands of many thousands of enthusiastic practitioners throughout this country.

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

Physicians have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information Christian S. Andersen, Esq.

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Editorial

SIR WILLIAM OSLER, BART., M.D., F.R.S., F.R.C.P., D.Sc., LL.D., D.C.L.

Low, like another's, lies the laurelled head;
The life that seemed a perfect song is o'er.

. . . . . .

From withered Earth's fantastic coronal,
With wandering sighs of forest and of wave
Mingles the murmur of a people's grief
For him whose leaf shall fade not, neither fall.
He hath fared forth, beyond these suns and showers.

So sang the most mellifluous of our latest singers of the late Laureate when he passed twenty-seven years agone,

> "To the Eternal Spring of fadeless fame,
> Crown'd with no mortal flowers."

And we recall them now as no less applicable to another " Master " who, instead of crowning " our immelodious days with flowers of perfect speech " (though he spoke oft melodiously and well), yet gave us an unrivalled largesse of those blooms that "smell sweet and blossom in the dust," and are associated with

" Upon the silent shore
Of memory, images and precious thoughts,
That shall not die, and cannot be destroyed."

In the short twilight of the Protomartyr's Day, 29th December, 1919, a secular saint, uncalendared save in the lives and loves of men, passed to his reward. His name was Sir William Osler, his patron saint's, Sir Thomas Browne. And though in some respects his life and doctrine were like Sir Thomas Browne's, yet he did not fail to embody also the wisdom and the advancement of the two hundred and fifty years which came between them.

Born in Bondhead, Ontario, on the 12th July, 1849, a son of the parsonage and intended for the Church, he had already entered upon preparation for the ministry in Trinity College, Toronto, when a chance circumstance diverted him to the larger field in which he could more directly follow in the footsteps of the Master and discharge the duties of his twofold ministry.

Coming of a family, probably more distinguished than any other in this Dominion by the unaided attainment of its Canadian sons; nurtured in the Spar-

THE LATE SIR WILLIAM OSLER

From a valuable steel engraving which has been presented to the University of Toronto by the Cosmos Club, of Washington, D.C. It is the work of the famous engraver Smillie, the foremost artist in engraving in America, and came through Dr. Casey Wood, president of the club. It is now in the hands of Sir Edmund Walker, chairman of the Board of Governors of the University, and when properly framed, will be hung in a suitable place in the University buildings.—*Courtesy of the "Toronto Daily Star."*

tan simplicity of the pioneer life of the Province of Upper Canada (Ontario); and educated in the Universities of Toronto, and McGill, Montreal, with post-graduate courses in Paris, Berlin and Vienna and other places on the continent; re-educated in the Professorial Chairs of Physiology or the Institutes of Medicine, of Pathology, of Clinical Medicine, and of Systematic or Didactic Medicine in three different countries, with the angles rubbed down and polished by the attrition of mind with mind in untold societies of scientific men and teachers, and a widely travelled man besides, he was indeed a "much counselling Ulixes," full of experience and accumulated wisdom and resource. Indued with didactic fervor and with the spirit of adventure in uncharted seas, his purpose held to sail beyond the sunset, and, with "equal temper (Aequanimitas, his lesson) to strive, to seek, to find and not to yield."

"But," as Matthew Arnold said of his father in Rugby Chapel,

> "But thou would'st not alone
> Be saved, my father! alone
> Conquer and come to thy goal,
> Leaving the rest in the wild.
>
> . . . . .
>
> Therefore to thee it was given
> Many to save with thyself.
>
> . . . . .

Souls temper'd with fire,
Fervent, heroic and good,
Helpers and friends of mankind
Servants of God! or sons
Shall I not call you?"

Nemo proprius ad Deum accedit, quam qui hominibus salutem dat et beneficium. So wrote a heathen philosopher, Lucius Annaeus Seneca by name (*qui ad Christianum proxime accesit*), brother of that Gallio who seems to have been unjustly pilloried for posterity because in administering the Lex Romana "he cared nothing" for the internal dissensions and disputations about their ritual in which the Jewish populace were wont to quarrel and create disorder. This very quotation the present writer sent to Professor Osler in his last illness, and it is hoped that it reached him ere he "crossed the bar." It breathes no sadness of farewell, but benediction only. With us who are left the sadness dwells. It is unbounded and inconsolable. No other words express it better than those of his friend and constant companion of sixty years: *Quis desiderio sit pudor aut modus Tam Cari Capitis?*

One of the pleasantest and most touching scenes of the many parts which, "in his time," he played so well, was often enacted at the pretty little village of Ewelme, in Oxfordshire, where stand the ancient almshouses of which his Oxford Post made him the Master. Over these and their most picturesque environment he delighted to show his visitors, and they

in turn delighted to observe how the Master and his charming better half—or, as Milton hath it, dearer—the partner of his joys and sorrows for eight and twenty years, and the constant and indispensable helpmeet of all his activities, had won their way into the hearts and lives of these old pensioners of Grace and derelicts of Fortune.

The time to write a biography of Sir William Osler is not yet. But to sketch in bold outlines and with free hand a bird's-eye view of him, as he lived, indeed is the *raison d'etre* of this Osler number, to which with confluent pens and reminiscent minds and hearts stirred with grief, the several following tributes of appreciation by those who knew and loved him pour forth their tears of ink.

On his assuming office in Oxford Osler was made a Student (Fellow) of Christ Church House, and so in the afternoon of the first day of the New Year, his mortal remains lying in the transept of that beautiful cathedral, Mother Church pronounced her requiescat over her true, faithful and worthy son in that ancient fane, itself built on foundations of Saxon times, " speaking of St. Frideswide, the misty, original founder—King's daughter, virgin, martyr, saint." With all of these he had much in common, and no man ever lived less to himself alone. The next day being the Festival of St. Machar and the anniversary of the death, in the year 17, of his two old friends and school companions, Livy and Ovid, his body, having been transported to Golder's

Green-by-London, was " fittingly resolved anew by flame and fire " and his ashes then inurned to be returned to his native soil.

It was the writer's fortune to be with him on various occasions and in many places, and to observe with pleasure and pride that he often entered his name, no matter where he was living at the time, upon hotel registers as William Osler, Toronto. It is fitting, therefore, that his ashes should make his longest sojourn in a caravanserai in that " meeting place " of his early love, where the " trees " upon the Island still cast their " shadows in the water," and where " the blue " waves of Lake Ontario, lapping his homeland shores, may croon his Requiem. *Deo danti Auctorique, filium propter insignissimum tuum, est gratia, Eique sit Laus, Canada!*

IRVING H. CAMERON.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Address all communications to "The Canadian Journal of Medicine and Surgery," 145 College Street, Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

Reprints, including halftones, etc., supplied authors at Net Cost.

Original Contributions

IN MEMORIAM—SIR WILLIAM OSLER, Bart., M.D., F.R.S., F.R.C.P., D.C.L., LL.D., D.Sc.

An Address delivered by the Rev. T. C. S. Macklem, M.A., D.D., LL.D., Provost of Trinity College, Toronto, at the Osler Memorial Service, held in St. James' Cathedral, Toronto, on Sunday, 11th January, 1920.

We are met here to-day in loving memory of a dear friend and a great fellow-countryman; one who was known and honored wherever the English language is spoken, and in many lands of foreign tongue. At a score of centres in the British Empire and in the United States similar memorial services are being held—a spontaneous tribute of affection and admiration.

Sir William Osler was one of the world's greatest physicians and teachers, but he was more. He was a lover of mankind, a giant amongst his fellows, an idealist for whom the "idea of the good" was supreme. His personality made an impression upon his own generation and upon the younger generation that came under his teaching, such as no mere professional skill, however great, could have done.

The esteem in which he was held and the wide circle of his influence are shown in some measure, though far from adequately, by the academic degrees and other distinctions which were conferred on him with a prodigality indicative of the abounding enthusiasm created everywhere by the charm of his personality, the depth of his learning, and the greatness of his achievements. His earliest alma mater, the University of Trinity College, Toronto, and the University of Durham, England, conferred on him the degree of Doctor of Civil Law. The degree of Doctor of Laws he received from the Universities of Toronto, McGill, Aberdeen, Edinburgh, Johns Hopkins, Yale, and Harvard. The Universities of Oxford, Cambridge, Dublin,

Liverpool, and Leeds conferred on him the degree of Doctor of Science and he was fittingly honored also by the Academy of Medicine, Paris, and the University of Christiania, Norway. With unrivalled distinction he occupied four professorial chairs, having been successively Professor of the Institutes of Medicine in McGill University, Professor of Clinical Medicine in the University of Pennsylvania, Professor of Medicine in Johns Hopkins University, and Regius Professor of Medicine in the University of Oxford. In 1911 he was created a baronet of the United Kingdom.

Sir William Osler was born at Bondhead, Ontario, in 1849. His mother was a woman of extraordinary sweetness and strength of character, who left a home of refinement in the old land, and came to Canada at a time when the ocean crossing took over seven weeks, and the journey from Quebec to Bondhead occupied several days. His father began adult life at sea, and presently joined the Royal Navy. After some years spent in that profession, and with a brilliant future in it opening before him, he responded to an urgent call from Canada for missionaries. Leaving the navy he went to Cambridge, where he took an honor degree, after which he was married to his young bride, was ordained by the Archbishop of Canterbury to the ministry of the Church, and left for Canada to enter upon a fruitful ministry of fifty-eight years.

Of such forebears was Sir William Osler born, and in the salutary environment of a humble parsonage in a sparsely-settled area of this province, his early years were spent. He carried with him through life, and developed to a high degree his parental heritage of sweetness and lovableness of disposition, strength of will and character, high ideals, intellectual greatness, and a devout faith.

Sir William Osler's devotion to literature was so marked a characteristic of his life that some reference to it, though necessarily a brief one, seems to be called for.

If Dr. Osler had devoted himself to literature as a profession, there can be little doubt that he would have won as high a place in the literary world as he did in medicine. He himself called it his avocation—medicine was his vocation and

literature his avocation. He found in it welcome relief from the strain of his profession, and it was the delight of his hours of leisure. But this does not mean that his knowledge of literature was superficial. On the contrary it was profound and far-reaching. His writings show an intimate acquaintance with the ancient classics and the sacred Scriptures; with Shakespeare, Milton, Goethe, Tennyson, Browning, Keats, and Shelley; with Sir Thomas Browne, Erasmus, Coleridge, Herbert Spencer; with Matthew Arnold and Cardinal Newman; with Montaigne, Emerson, Oliver Wendell Holmes, and a host of others. His ability to draw upon these authors for apt quotation and striking illustration showed an intimacy of knowledge and a skill of handling that were simply marvellous. His predecessor in the presidency of the Classical Association of London, Professor Gilbert Murray, referred to him as being equally distinguished as a physician and as a man of letters—high praise, indeed, when said by an outstanding littérateur concerning one who has been publicly acclaimed as "the best known and best loved physician that this or any country has produced."

Of Dr. Osler's medical writings I have no personal knowledge. I can only say that which everyone knows, that they are placed in the first rank by the judgment of the medical profession in the leading countries of the world.

The exigency of time forbids more than the briefest acknowledgment of Dr. Osler's war work, of which it must suffice to say that it was characteristic of the man. He gave of his best without stint, without reserve, and with a thoroughness of self-sacrificing devotion which neglected nothing that his immense powers could compass. That he gave also his only son was a tragedy which tested, and found to be not wanting, that which he himself years before had declared to be one of his personal ideals, "to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man."

Three dominating ideas appear like guiding stars in Dr. Osler's life-work, which he called the master-word in medicine, fellowship with great minds, and charity. Listen to his own words about each of these:—

"It seems a bounden duty on such an occasion," he said to the undergraduates of the University of Toronto, in 1903, "to be honest and frank, so I propose to tell you the secret of life as I have seen the game played, and as I have tried to play it myself. You remember in one of the jungle stories that when Mowgli wished to be avenged on the villagers he could only get the help of Hathi and his sons by sending them the master-word. This I propose to give you in the hope, yes, in the full assurance that some of you at least will lay hold upon it to your profit. Though a little one, the master-word looms large in meaning. It is the open sesame of every portal, the great equalizer in the world, the true philosopher's stone, which transmutes all the base metal of humanity into gold. . . . Not only has it been the touchstone of progress, but it is the measure of success in every life. Not a man before you but is beholden to it for his position here, while he who addresses you has that honor directly in consequence of having had it graven on his heart when he was as you are to-day. And the master-word is *work*; a little one, as I have said, but fraught with momentous sequences if you can but write it on the tablets of your hearts, and bind it upon your foreheads."

Concerning fellowship with great minds, Dr. Osler had many things to say, and he said them often and well. Here is one of them:—

"The all-important thing is to get a relish for the good company of the race in a daily intercourse with some of the great minds of all ages. . . . Start at once a bedside library and spend the last half-hour of the day in communion with the saints of humanity. There are great lessons to be learned from Job and from David, from Isaiah and St. Paul. Taught by Shakespeare you may take your intellectual and moral measure with singular precision. Learn to love Epictetus and Marcus Aurelius. Should you be so fortunate as to be born a Platonist, Jowett will introduce you to the great master through whom alone we can think in certain levels, and whose perpetual modernness startles and delights. Montaigne will teach you moderation in all things, and to be 'sealed of his tribe' is a special privilege."

As to charity—or love—that spirit which enveloped the whole man, and emanated from him in a thousand forms of helpfulness, cheerfulness, and unselfish devotion—this Dr. Osler left as his parting word to the medical profession of the United States on the eve of his departure for Oxford.

"It may be," he said, "that in the hurry and bustle of a busy life I have given offence to some—who can avoid it? Unwittingly I may have shot an arrow o'er the house and hurt a brother—if so, I am sorry, and I ask his pardon. So far as I can read my heart I leave you in charity with all. I have striven with none, not, as Walter Savage Landor says, because none was worth the strife, but because I have had a deep conviction of the hatefulness of strife, of its uselessness, of its disastrous effect, and a still deeper conviction of the blessings that come with unity, peace and concord. And I would give to each of you, my brothers—you who hear me now, and to you who may elsewhere read my words—to you who do our greatest work laboring incessantly for small rewards in towns and country places—to you the more favored ones who have special fields of work—to you teachers and professors and scientific workers—to one and all, through the length and breadth of the land—I give you a single word as my parting commandment.

"It is not hidden from thee, neither is it far off. It is not in heaven that thou shouldest say, 'Who shall go up for us to heaven, and bring it unto us, that we may hear it, and do it?' Neither is it beyond the sea that thou shouldest say, 'Who shall go over the sea for us, and bring it unto us, that we may hear it, and do it?' But the word is very nigh unto thee, in thy mouth and in thy heart, that thou mayest do it—*charity.*"

These guiding stars of Sir William Osler's life do not differ greatly from St. Paul's classification: Faith, Hope, Charity. "The greatest of these is charity," and that Dr. Osler, too, made the greatest.

St. Paul's "Hope" embraces that fellowship with the saints of humanity, that conviction of unfailing goodness and progress, that cheery outlook on life and abounding optimism, which radiated from Dr. Osler and infected all with whom he came in contact.

It remains then only to speak of Dr. Osler's faith, which found constant expression in the high ideals of his life. His personal conversation, his published utterances, and his whole manner of life bear eloquent testimony to a deep and abiding faith in God, in Christ, and in the life that is to come. When he urged his students to establish a bedside library, and spend the last half-hour of the day in communion with great minds, and gave them a list of ten books whereby to form their characters, he placed first on the list the Old and New Testaments of the sacred Scriptures. In a Sunday evening address delivered to the students of Yale University in 1913 he expressed at once his faith in true Christianity and his impatience of any dogma that veils the simple teachings of Jesus Christ, when he said: "Begin the day with Christ and His prayer—you need no other. Creedless, with it you have religion; creed-stuffed, it will leaven any theological dough in which you stick. . . . Learn to know your Bible. . . . In forming character and in shaping conduct, its touch has still its ancient power." His personal application of Christianity was intensely practical: "We are here," he said, "not to get all we can out of life for ourselves, but to try to make the lives of others happier. This is the essence of that oft-repeated admonition of Christ, 'He that findeth his life shall lose it, and he that loseth his life for my sake shall find it,' on which hard saying, if the children of this generation would only lay hold, there would be less misery and discontent in the world."

Lastly, consider Dr. Osler's faith in the life that lies beyond the grave.

Naturally, his attitude towards this subject was first of all that of the scientist, and he displayed the caution which is characteristic, and properly so, of the man of science when dealing with any subject which cannot be demonstrated by logical processes of proof based on ascertained facts. "Science," said Dr. Osler, "is organised knowledge, and knowledge is of the things we see. Now the things that are seen are temporal, and the things that are unseen science knows nothing of, and has at present no means of knowing anything."

"On the question of immortality," he says in the same

essay, "the only enduring enlightenment is through faith. 'Only believe,' and 'he that believeth'—these are the commandments with comfort; not 'only think' and 'he that reasoneth,' for these are the commandments of science." Quite consistently, therefore, he declares: "Though his philosophy finds nothing to support it, the scientific student should be ready to acknowledge the value of a belief in a hereafter as an asset in human life. . . . He will recognize that amid the turbid ebb and flow of human misery, a belief in the resurrection of the dead and the life of the world to come is the rock of safety to which many of the noblest of his fellows have clung; he will gratefully accept the incalculable comfort of such a belief to those sorrowing for precious friends 'hid in death's dateless night'; he will acknowledge with gratitude and reverence the service to humanity of the great souls who have departed this life in a sure and certain hope."

His own belief in a future life he affirmed unhesitatingly; and in addressing the nurses in Johns Hopkins Hospital in 1881, he said this: "You have been much by the dark river—so near to us all—and have seen so many embark, that the dread of the old boatman has almost disappeared, and

> When the angel of the darker drink
> At last shall find you by the river brink,
> And offering his cup, invite your soul
> Forth to your lips to quaff—you shall not shrink;

your passport shall be the blessing of Him in whose footsteps you have trodden, unto whose sick you have ministered, and for whose children you have cared."

Into this great life that lies beyond the ascertained facts of science, but is clear and open to the eye of faith, Sir William Osler himself entered on the 29th day of December, 1919, in his 71st year. And if I may be permitted to give expression to my own faith, I believe that he is even now in closer communion with that great Physician of soul and body, with whose life on earth Dr. Osler's life bore close resemblance in many respects, and especially in respect of the record that He "went

about doing good . . . and healing all manner of diseases and all manner of sickness among the people."

That Dr. Osler's wonderful powers—those ten talents which he himself called one talent developed by assiduous work—are now finding an even wider sphere of activity and usefulness than they found on this earth, where two continents hardly sufficed to contain them, I do not doubt. And while his activities continue yonder under conditions unknown to us, his memory will survive here as that of one of the world's greatest physicians and most charming of men. But I believe he would himself wish to be remembered above all else as one who helped to make others great; who raised to a higher level the noble profession to which he devoted his life; who reached out sympathetic hands to lift up his fellow-men; who filled the hearts of multitudes with joy, and their souls with strength; and who has left behind him a feeling which overshadows even the remembrance of his greatness as a physician—the feeling, shared by thousands, of intense loss, because a personal friend whom they loved, and of whose lives he had become a part, has passed within the veil.

"Amid earth's vagrant noises, he caught the note sublime;
To-day around him surges from the silences of Time
A flood of nobler music, like a river deep and broad,
Fit song for heroes gathered in the banquet-hall of God."

OSLER—THE MAN

IRVING H. CAMERON, TORONTO.

"The child is father of the man," and so it follows that much that is here set down of Osler the Man is the natural outgrowth and development of the traits and characteristics detailed by Dr. N. B. Gwyn concerning his earlier years. And it may be remarked, in passing, that we are exceedingly fortunate in now having with us in Toronto one who, as a nephew of Dr. Osler, was able to gather together such interesting and familiar details, and who himself reproduces in his person, or

rather in his physiognomy and finger-play, so accurate a delineation of many of his uncle's physical features and unconscious mannerisms—that is the trivial, unsophisticated, unintentional, muscle-play which betrays the man behind the formal mask of personality on the stage of life (σκηνή πᾶς ὁ βίος) Dr. Osler's bias and his course of training were eminently fitted to develop a great physician, and undoubtedly he became a pre-eminent exponent of the healing art, but it was not as a practitioner of the *Ars Medendi,* in its narrower sense, that his highest success was manifest, but rather as a physician in the broader view, a priest of Nature, and as a teacher (doctor) and revealer of the mysteries of life counterchanged at either end with darkness—but none the less a continuous whole—for, with Matthew Arnold, he "saw life steadily and saw it whole." With Addison he had had the "Vision of Mirzah," and with Plato comprehended the "Myth of Er," and shared with the University of Glasgow its daily admonition, *"Via Veritas Vita,"* whose middle term was the answer vouchsafed to Thomas, but not to Pilate, whose query still echoes down the ages "through the ringing grooves of change."

Of Osler it may be said, as it was of Whewell, that science (physical and biological, not mathematical) was his forte and omniscience his foible; for from his first prentice squint down the tube of Dr. James Bovell's microscope, he became a devotee of Science and a renegade of Systematic Theology, and, to use the much-abused *facetiae,* a doctor that practised for a doctor that preached. It is curious to note that his master (J. B.) himself reversed the process, and beginning as a physician ended a priest of the Established Church in Jamaica. Dr. James Bovell was one of the earliest to take up physiological investigation amongst us, and Osler soon became deeply imbued with the fervor and enthusiasm of his master, and so it happened that when he went to England the increased facilities for study ripened his predilection into a passion, and he devoted himself to its pursuit with ever-increasing ardor. This being known, and his ability too, it is not so surprising as it at first sight appears, that on his return to Canada, after a two-years'

sojourn across the water, he was at once offered the Professorial Chair of the Institutes of Medicine at McGill. The fact is not only a tribute to his singular capacity and his early attainments, but an equal one to the discernment and insight of the electors to the preferment, evidencing that they *knew* a man. But a mind and nature such as Osler's could not come in contact with such personalities as Murchison, John Syer Bristowe, Peacock, Greenfield, and Payne at St. Thomas's, Wilson Fox, Jenner, Ringer, Charlton Bastian, A. E. Schæfer (a fellow-student), and Burdon Sanderson and Fred Roberts at University College, Gull and Wilks and Pavy at Guy's, Henry Sutton, Hughlings Jackson, Robert Barnes, and his fellow student Stephen Mackenzie at the London, Geo. Johnson, Garrod, and Beale at King's, Samuel Jones Gee and the immortal Paget and Lauder Brunton at Bart.'s, without realizing the importance of the Physiology of Disease as well, and when added to this it happened that after his appointment to the Chair of the Institutes of Medicine at McGill, the control of the autopsy work was also given to him, it was inevitable that this further field of study and investigation should absorb his interest and energies to the utmost, and that he should realize in practice the truth of the legend he must have read oftentimes over the door of the mortuary of the Old Hotel Dieu in Paris: *Hic locus est quo mors gaudet succurrere vitae.*

His clinical experience being likewise wide, he rapidly became in himself *totus, teres atque rotundus,* and he was not slow to reach the conviction which animated him to his dying day that the true physician must be thoroughly acquainted with diseased men and women, and not simply know, however well, physiological and pathological processes and specimens of morbid anatomy. In an address to the students of Albany College in 1899 he said: "I would urge you to care more particularly for the individual patient than for the special features of the disease." The dry bones are clothed with flesh, irrigated with blood, controlled by nerves, endowed with life and dominated by a soul; and the man is one and indivisible, gifted, in the image of his Creator, with godlike reason. "What a piece of work is a man!" Hamlet exclaims. Who shall "break into thens and

whens his eternal Now?" And who shall presume to divide and separate the several faculties of "a paragon" "so express and admirable," and deal with them piecemeal? Such an one was not Osler. And it is as true of the physical man as of the metaphysical and the metaphorical that

> "Not for this
> Was common clay ta'en from the common earth,
> Moulded by God, and temper'd with the tears
> Of angels to the perfect shape of man."

That Osler was a born leader of men and a trenchant reformer of effete methods and outworn conditions, well able to grapple with the constructive problems of new developments is abundantly attested by a glance at the story of his relationship to the medical and other societies and associations with which he was identified or affiliated. The same story runs through all; and it is curious how he happened upon them all when in transition stage—about to be born, or ready for transformation, that is, reborn. The point need not be labored, but it may be enforced by reference to several instances. The first is the Montreal Medical Society, which, after his advent, was born again to a life of activity and usefulness. The next is the Canada Medical Association whose energetic secretary he became shortly after his return, and its inspiring president before he left. Then the American Medical Association, which had become a "mute inglorious" thing in a critical stage of its existence, felt his revivifying touch and pious zeal, and he played no inconsiderable part (nay, *pars magna fuit*) in its regeneration and anastasis. In Philadelphia, too, and in Baltimore, the Medical Associations and kindred societies, and especially those in Baltimore, felt the impress of his virile influence and fostering sympathy; and the impulse which he gave to the study of the history of medicine has been an abiding boon. The same may be said of the History of Medicine Section and of the Royal Society of Medicine, in London, and both of these have been enriched by his friendly counsel, practical beneficence and personal interest, and activity. Oxford Medical Associations also commanded his active collaboration and support.

Many set orations stand to Osler's credit. Chief among these, perhaps, may be mentioned the Gulstonian Lectures delivered before the Royal College of Physicians in London in 1884, and the Cartwright Lectures delivered in New York before the College of Physicians and Surgeons in 1886.

Greatly given to hospitality himself he was a man much "wined and dined." Memorable amongst the more or less public dinners in his honor may be mentioned, as marking epochs in his career, the gathering in the Windsor Hotel in Montreal in 1884, on the eve of his departure to assume the Chair of Clinical Medicine in the University of Pennsylvania; that at the Maryland Club in Baltimore on the "Queen's Birthday," 1898, to celebrate his admission to the Fellowship of the Royal Society of London, when the menu was facetiously devised to reiterate on every item the coveted letters F. R. S., the Blue Ribbon of Science, as thus:—"Our compliments to Wm. Osler, first rate specimen of a famous royal subject, large luscious dinner. . . . Fine ripe sherry, fish recently snared" and so on throughout, winding up with "funereally rank segars" (*sic*, of course); the third was the farewell dinner in New York when he left America for England, Baltimore for Oxford. Five hundred sat down to this banquet and he must have seen it as a Red Letter Day thenceforth.

He was a voluminous writer, but not diffuse. A remarkable testimony to his scriptural industry is afforded by the statement in the July (1919) number of the Johns Hopkins Hospital Bulletin (of which he was the founder) that during the all but fifty years of his medical ministry 730 books and articles flowed from his pen.

Being a mid-Victorian and endowed with an appreciation of literature he was, of course, familiar with Sir Thomas Watson's "Practice of Physic," and it is little wonder therefore, that he was inspired with an ambition to write a "Text Book on the Principles and Practice of Medicine." This and his "System of Medicine" entitled "Modern," edited in conjunction with another of our old boys and a follower in Philadelphia, Professor Thomas McCrae, will stand as his *magnum opus*.

But it was not as a writer of books, nor as a voice of arti-

culated speech, that Osler shone at his brightest as a teacher of medicine. It was his personality, winning, engaging, inspiring, subtle, and his infectious example of meticulous care in eliciting and in weighing his "facts" and then seeking the added side lights upon them to be found in the Library, the Laboratory, the Museum, the History of Medicine and the "human heart," for he judgeth best "who loveth best all things both great and small." And the last line of his introduction to "Modern Medicine" reveals the secret and accredits its discovery to the Father of Medicine himself: "To serve the art of medicine as it should be served, one must love his fellowmen."

A comparison, or parallel, has been made more than once between the characters of Hermann Bœrhaave, of Leiden, and of Osler, and many points of resemblance may be observed. To cite one only here, but the type of all, Bœrhaave said that "the poor were his best patients, for God was their Paymaster," and Osler acted as if he believed it, and said of himself in a farewell utterance on leaving McGill for Pennsylvania that he was "a rich man, not in worldly goods, for such I have the misfortune—or the good fortune—lightly to esteem, but rich in the goods which neither moth nor rust have been able to corrupt—friendship, good fellowship, wider experience, and fuller knowledge," and where, with fuller knowledge, he might have added, the Huns do not break through and steal, and ravish the world of beauty. Moreover, a certain parallel may be traced in their careers; both commenced their professorial courses in the Chair of the Institutes of Medicine and finished in the Chair of the Practice of Medicine; when in 1689 Bœrhaave took his degree in Philosophy, his dissertation was *De distinctione mentis a corpore*. Osler's preliminary scientific course had the same trend; Bœrhaave's inaugural discourse at Leiden was "De Commendando Hippocrates Studio," in which he recommended to his pupils that Great Physician as their model. Such was Osler's theme first, last and all the time. Conjoined with the subject of medicine Bœrhaave taught Botany and Chemistry (which chairs he also occupied) and to his Osler added Biology and Pathology. When in 1714 Bœrhaave succeeded Govert Bidloo in the Chair of Practical Medi-

cine, "he introduced the modern system of Clinical Instruction;" when Osler took up the Chair of Clinical Medicine in Pennsylvania, and still more elaborately after he had migrated to Johns Hopkins, he did the same, *mutatis mutandis temporibus mutatis.* In fine, both added to their laurels the crowning bay of F.R.S. of London; and both lived and died in the fear of God and the love of man.

The ideals which Osler chiefly cultivated in his juniors, assistants and pupils were: To do the day's work well and not bother about to-morrow ("Of care for two days hold thee free; The day that was, and is to be."—Omar Khayyam); to act on the Golden Rule *towards professional brethren and patients;* and to cultivate a measure of equanimity so as to bear success with humility, affection of friends without pride, and to be ready, when the day of sorrow and grief came, to meet it with the courage befitting a man"—showing that in his view Virtue is "all that may become a man." And a man he dared to be and virtue to embody. His own example enforced his teaching. *Longum iter est per precepta, breve et efficax per exempla.*

In his farewell address on leaving the University of Pennsylvania for Johns Hopkins, he added another practical suggestion, or rule of conduct, when he spoke in praise of *imperturbability of demeanour and inscrutability of face* as desirable assets and qualities in a physician, and therefore to be cultivated. The camera nearly always portrayed him in a Sphinx-like mask.

To medical journalists he was ever helpful; and also kind, except when he played pranks upon them, which he sometimes did over the signature of Egerton Y. Davis, of Caughnawagah, and other pseudonyms.

He was always in great demand for festive occasions, anniversaries, reunions, inaugurations, dedications of buildings, laboratories and the like because of his genial and happy disposition, his love of fun and pranks and practical jokes, against which neither age nor station was a shield, and his cheery optimism and ready wit in making a speech always rendered quaint and impressive by its scriptural language and references (for he *could* quote scripture like the devil). One of his early

and "well-known butts of many a flinty joke," who always bore his shafts with infinite good humor, and retaliated in kind as occasion offered, an editor too, Dr. Wm. Molson, of Montreal, survived him but a few days, and on the 4th of January rejoined him in the "Happy Isles" and the "Fields Elysian." In fancy one sees them now devising mutual mischiefs on beds of Amaranth and Moly!

Although his metaphorical heart was not always on his sleeve it was ever easy of access. And when, as so often happened, walking with him in the streets of Montreal or Toronto, Gotham or Philadelphia, Baltimore or London, one suddenly missed him from one's side and saw him darting around the corner or across the street, athwart the traffic, and presently returning, one knew (from past experience) that some sobbing child with broken heart had had his grief (more likely hers) assuaged with coppers, or some deeper woe alleviated by fitting means. The number of loose coppers to be found in his clothing for distribution amongst the *gamins* of the pavement was a standing joke among his intimates, a by-word dissociated from reproach. Of his larger charities, it is unnecessary to speak. *Ab uno disce omnes!*

Professor Arthur Thomson (Human Anatomy at Oxford) has written delightfully of Osler in an eulogium published in the *British Medical Journal* of 3rd Jan., 1920, from which the following lines are culled:—"In 1905, Osler came to Oxford with a great reputation. That he has lived up to it, and given us of his best, is attested by the affection which his memory invokes. . . . It is pleasant to know that the years spent here were amongst the happiest of his life." "Gifted with a remarkable memory, and equipped with an almost limitless experience, he never seemed to forget anything that he had either seen or read. He had a marvellous power of marshalling facts and getting at the essentials. Quick to realize the ever changing needs of the times, he was always in the forefront of progress. There was a brightness and sparkle about his views which won approval and disarmed opposition. . . . He generally got his way, and, be it here recorded, his way was usually the best way." . . . "His delight was in books; he

was never happier than when showing some recently acquired treasure. Much of his leisure was spent in the Bodleian, of which he was a curator, and his expert advice was of invaluable service to the delegates of the *Clarendon Press.*" "It was around the Radcliffe Infirmary that his activities mainly centred; he was largely instrumental in getting the new Clinical Laboratory built there, and much of his time was devoted to the introduction of appropriate Clinics in that institution." Clinical work and bedside instruction remained his passion to the end.

Mr. R. W. Chapman, Assistant Secretary of the *Clarendon Press,* writing for the *British Medical Journal,* says: "Sir Wm. Osler became a delegate of the Oxford University Press in 1905, and was recently made a perpetual delegate in the room of Dr. Sanday. His immense knowledge and great influence, his antiquarian tastes and bibliographical lore, made his help and counsel of great value to an institution which has its roots in the past and claims its place in the forefront of modern research. Osler's name will always be connected with the *Quarterly Journal of Medicine,* the publication of which by the University Press was due to his initiative. It is not so well known how much the series of Oxford Medical publications which began during his tenure of office, owed to his constant care and wise direction.

"The Press has in preparation 'A Physician's Anthology,' a collection of verse made by some of his friends in his honor. All who are connected with the Press deplore that 'what was designed as a gift can now be no more than a memorial'."

It is understood that his private library, containing a rare collection of bibliographical treasures, goes to McGill, his medical *Alma Mater* where he spent the first decade of his professorial life, and the foster mother thus shines more brilliantly, after the Chinese fashion, by the reflected light of her devoted and most worthy son.

On all sides he was a bibliophile of the first water, and he was President of the Bibliographical Society. A rare book or a first edition he fished for with a zeal, patience and skill which would have done credit to Isaak Walton in pursuit of a piscatorial prize, and his pleasure in its capture knew no bounds.

He was the prime mover in the establishment of the Association of Physicians of Great Britain and Ireland, and President of the Fellowship of Medicine and Post-Graduate Association of London, whose avowed object is to supplant Berlin and Vienna as centres of post-graduate study and research.

The last three holders of the Regius Professorship of Medicine at Oxford form a triumvirate of great ability and distinction and their terms of office cover a period of three score years, the middle term, however, being only of ten years' duration. All three were developed on physiological lines and the middle one, Sir John Burdon Sanderson, Osler's old master at University College—in many respects the most picturesque and romantic—was Waynefleet Professor of Physiology. Sir Henry Wentworth Acland, the first of the three, was of "The House" too, and his first teaching appointment was as Lee Reader in Anatomy there in 1845. Canadians are interested in him as he came here with Albert Edward, Prince of Wales in 1860, and they took back to Oxford for education a full-blooded Indian, Oronhyatekha, who became a physician and ultimately the head of the Foresters' Order here. John Ruskin, who was a friend of Acland, said: To Henry Acland physiology was an entrusted gospel of which he was the solitary preacher to the heathen. To the Radcliffe (Camera) he was Librarian, to the Infirmary Physician; a Curator of the University Galleries and the Bodleian, and the prime mover in establishing the University Museum (1861). He took an active part in the revival of the Oxford Medical School (called "The Lost"), and for thirty years he represented the University on the General Medical Council. It will thus be seen how in every respect, except the last, Osler rounded out and completed the labors of his immediate predecessors, and gave back to Oxford her lost school. Of him, Dr. Charles Singer writes:—"Perhaps only those who have known the Medical School at Oxford, both before and after Osler's arrival, can estimate fully the change wrought by his personality, not only in the mechanism, but in the whole spirit. Among Osler's predecessors in the Chair at Oxford have been men of the very highest scientific distinction, but few or none had that kind of knowledge which comes of a long life of clinical teaching and

of a wide experience of a variety of medical schools. This was Osler's special asset, and it was associated in him with actual scientific attainments and humanistic sympathies that have probably not been found in combination to a like degree in any one medical teacher since the days of Bœrhaave."

Osler's wonderful and abiding success at Oxford is very remarkable. Among the " potent, grave and reverend seniors, and our most worthy and approved good masters " he came as a western breeze, balmy but belike disturbing in the grove of Academus, and rustling if not ruffling the calm sedateness and the dignity of an old world " Close surrounded by the venerable abodes of deans and canons," masters, principals, presidents and heads. But his personality redeemed the intrusion of an innovation. It was soon apparent that he was *nulli secundus* in his real reverence for all that is high and holy and time-honored and in his transcendent love of

> " Beauty, Good and Knowledge, the three sisters
> That doat upon each other, friends to man,
> Living together under that same roof,
> And never to be sundered without tears."

Soon his sprightliness and geniality and loveableness and learning, and then an interest in his point of view, won their way imperceptibly, and anon he was engrafted as a scion from overseas upon the ancient stock, and its lopping by the inexorable Woodman now gives rise to dole and teen.

> " As one that for a weary space has lain
> Lulled by the song of Circe and her wine
> In gardens by the pale of Proserpine,
> Where that Aeæan isle forgets the main,
> And only the low lutes of love complain,
> And only shadows of wan lovers pine,
> As such a one were glad to know the brine
> Salt on his lips, and the large air again."

So the most conservative at Oxford presently began to appreciate and to enjoy the new sensation and the flavor of a golden

apple from the Hesperides. And then they perceived, perhaps with some astonishment, that he brought with him too from

"—a western beach
The surge and thunder of the Odyssey."

There was nothing of the politician about Osler, but he was keen on rendering public service and upon guiding public opinion in matters medical. So it happened that he was "an active member of many committees dealing with various aspects of medicine and its application to the public welfare." He had no liking for public life, however, and it is affirmed that he declined to accept a nomination as the representative of the University of Oxford in the Mother of Parliaments, as he had, when at Johns Hopkins (in 1894) refused the principalship of the University of McGill. Not that he was averse to the limelight of public station in itself, but because he knew his opportunities and capacity for service were greater in the ambit of his chosen walk in life. . But, apart from politics, it would be almost literally true to say that within the range of his sphere *Nihil quod non tetigit, Nihil tetigit quod non ornavit.*

He climbed the Academic ladder by this scale:—M.D. McGill, 1872; L.R.C.P. Lond., 1873; M.R.C.P. Lond., 1878; F.R.C.P. Lond., 1883; F.R.S., 1898; Prof. Institutes of Medicine, McGill, 1874; Prof. Clinical Medicine, Pennsylvania, 1884; Professor of the Principles and Practice of Medicine, Johns Hopkins, 1889; and Regius Professor of Medicine at Oxford in 1905.

Among the many honors conferred upon Osler may be enumerated:—The Baronetcy granted at the Coronation of King George V.; the honorary professorship of Medicine in Johns Hopkins University; the honorary M.D. of Christiania and Oxford; the honorary D.Sc. of Oxford, Cambridge, Dublin, Liverpool and Leeds; the LL.D. (*honoris causâ*) of Aberdeen, Edinburgh, Harvard, Johns Hopkins, McGill, Toronto and Yale; the D.C.L. of Durham and of Trinity (Toronto). And he was a Foreign Associate of the Academy of Medicine of Paris.

The last, but not least, distinction was conveyed when 150

distinguished members of the profession, cis-Atlantic and trans-Atlantic collaborated in preparing a collection of essays in two volumes which were presented to him by Sir Thomas Clifford Allbutt, his " brother of Cambridge," on the 11th of July, 1919, to commemorate his 70th birthday which fell on the 12th— a tribute rather German and American in its character, but full of sincere admiration, love and esteem, and gratitude.

A still higher recompense and reward attended him in the universal love and admiration of his fellows—a payment in kind of the debt of humanity which he valued above all else. For with Abou Ben Adhem, of Leigh Hunt's poem, he said on one occasion, " I pray you then write me as one who loves his fellow men."

At a house luncheon in the York Club on New Year's Day, the one common topic of conversation at every table was the recent passing of Osler. And Professor Pelham Edgar, who knew him well at Johns Hopkins and elsewhere, said " I believe Osler was the best loved man in the world." No one was willing to challenge the statement or to suggest a rival to him in the world's intimate and personal regard and affection. The statement at first blush savors of hyperbole, but maturer reflection, considering his natural characteristics and personality, his very wide acquaintance with men in many spheres of life and action on two continents, the intimate character of that intercourse and knowledge involving all classes of society, ranks and grades of life under the most varied circumstances from the out-patient department and the slums to the environment of the Throne itself, leads us to agree that Professor Pelham Edgar was indulging in no exaggeration, but simply spoke " the words of truth and soberness."

One must not forbear to mention his great service in the war and the crowning sorrow of his life, wherewith that bloody sacrilege and crime was fraught. His only son, Edward Revere (he had another son who died in infancy), a great great grandson of Paul Revere, whose " Midnight Ride on the Eighteenth of April, Seventy-five," Longfellow has immortalized in " The Landlord's Tale " at " The Wayside Inn," fell on the field of honor a victim to the savagery of the Hun. He was just off

age, an undergraduate of Oxford, entered at Christ Church House. Professor Arthur Thomson writes: "The war told badly on Sir William. Like many others he lost his only son; it hit him hard, but he never winced. As he said to me, 'Ours is a common sorrow; we must think of others as well as ourselves.' In consequence he immersed himself in duties innumerable, particularly in connection with the hospitals under Canadian and American control. He was always responsive to the appeal of friends from abroad, who were anxious to obtain news of their wounded sons. This often entailed long and tedious journeys, and the strain told on him; he was a worn and tired man." His wonderful resiliency was attested by the fact that, broken by his own bereavement and the like calamity of many friends, and worn by the pressure of overwork and worry, when he went to the Channel Islands last summer for a period of rest and recuperation, he seemed to recover his old vitality, and it was reported of him that "with boyish glee he had been indulging in all sorts of acrobatic performances, such as standing on his head and turning cartwheels on the sands—wonderful feats for a man of seventy." On the 5th of August, 1914, the writer met him in Pall Mall on his way to the station bound for Birmingham to take part in some War Council, and asked him to present to the authorities the proffered services of a Canadian Professor of Surgery. It was also the writer's good fortune to be associated with him in the work of two of the Canadian hospitals out of the three which Professor Osler served as consultant, and he performed the like duty in two American hospitals, as well as discharging his own duties at the Radcliffe Infirmary and the Oxford War Hospital in "the Schools." This, and much more he did, in addition to being at the beck and call of the War Office and anybody who needed his services, always cheerfully, piously rendered.

One of his most gratifying, one of the most flattering to his vanity, if he had any vanity, of all his varied experiences, must have been his election to the Presidency of the Classical Association which he acknowledged and repaid by his address on "The Old Humanities and the New Science" at the Oxford meeting in May, 1919. The way he was received by the assoc-

iation and the encomiums passed upon him by both his predecessor and his successor in the chair, must surely have engendered a sense of warmth and grateful tingling in the cockles of his human heart. His perennial youth was a very striking characteristic. ὃν οἱ θεοί φιλοῦσιν ἀποθνήσκει νεος says the ancient proverb, and, true, the favorites of the gods grow not old, but persist in perpetual youth, so that Osler could say on the 12th of last July, as did his friend Oliver Wendell Holmes on a like occasion, he was "seventy years young." And the secret of his youth was his love of youth and their society, which he always sought and by which he was renewed, alike in his physical buoyancy and in the spirit of his mind.

Also he grew not old because he kept in touch with the spirits of the Prime, and his familiars were to be found in "the humanities," and "they did teach to him the magic of their mysteries." By the "Humanities" is not meant what the Scottish Universities imply, viz., the Latin language and literature, but polite scholarship of all kinds, and especially to be derived from the Greek and Latin classics, but not from them alone. They preeminently embody and set forth the unsophisticated man, and they preserve that Curie-ous ray of nature whose penetrating and alchemistic touch transmutes the baser metals of humanity to gold, and "makes the whole world kin."

Though Osler's sermons mainly took the short and effective form of example, he sometimes wrote one. These appeared for the most part in the form of biographies which he loved so well. "A Way of Life," was not of these, but was preached to Yale students on Sunday evening, April 20, 1913, "An Alabama Student" and other essays were biographical for the most part on the medical side, as the "Lives of the Saints" are on the clerical. "Science and Immortality" and "Man's Redemption of Man" are frankly Browneian, and "Aequanimitas," etc., medico-philosophic. All declare his faith in God and his love of man. And now,

"To him his bounties are come back," home brought,
"In rest, in peace, his labor nobly done."
Frater, ave atque Vale! (not with Catullus's "hopeless woe").

With Plato let us say:—

ἄστηρ, πρὶν μὲν ἔλαμπεις ἐνὶ ζωοισιν Ἑῶος,
νῦν δὲ θανὼν λάμπεις Ἑσπερος ἐν φθιμένοις

or, as done into Latin by Lord Curzon:—

"Stella prius vivis Eoa luce nitebas,
At nunc Hesperio Manibus orbe nites."

"O man, greatly beloved," thou hast gone "thy ways,
And thou shalt rest, and stand in thy lot
At the end of the days."

OSLER AT JOHNS HOPKINS

BY LEWELLYS F. BARKER, M.D.

When the Johns Hopkins Hospital was built, offering better facilities for the organization and conduct of clinical work than had up to then been available in the United States, the authorities of the hospital and university sought a man to head the department of medicine. They hoped they might secure for this place, not only an able practitioner, but also a good teacher and one capable of advancing knowledge by original research. After a careful survey of available men they decided to offer the position to Dr. William Osler, then a professor of clinical medicine in the University of Pennsylvania. Dr. Osler accepted the offer, and thus became professor of medicine in the Johns Hopkins University and physician-in-chief to the Johns Hopkins Hospital. Though the appointment was made in the autumn of 1888, his service was not to begin until the following spring. The hospital was formally opened on May 7, 1889, and it was some months before even a simple organization could be perfected. With the aid of Lafleur, of Montreal, and Scott and Toulmin, of Philadelphia, whom Dr. Osler brought with him, and that of a group of able young men in Baltimore, the organization of the clinic was undertaken. Patients began to be admitted to the wards, others were examined and treated in

the out-patient department, and a programme for the development of internal medicine in the hospital was gradually elaborated. Thanks to the blood, the brain, and the spirit of Dr. Osler, the Johns Hopkins medical clinic, as evolved in his time, became one of the leading medical clinics of the English-speaking world.

During his sixteen years in Baltimore, from the fortieth to the fifty-sixth year of his life, Dr. Osler's career was one of manifold activities. In addition to his heavy executive duties in the hospital and medical school, he divided his time so as to participate in teaching, in practice in the hospital and in outside consultations, in personal original research and in the stimulation of others to investigate, in literary work, in the making of public addresses, and in the cultivation of friendly and helpful relations with the medical profession in Baltimore and in the country at large. Animated by high ideals, rigidly self-disciplined to systematic habits of work, and blessed with a personality that compelled admiration, respect, loyalty, and affection in every one with whom he came in contact, his time at Johns Hopkins was one of active productivity and of widely beneficent influence.

The purely executive functions of the department of medicine at Johns Hopkins were so simply and inconspicuously performed by him that one scarcely thought of Dr. Osler as an executive officer, but this apparent simplicity and this inconspicuousness were but evidence of his skill as an organizer and of his ability as a manager. After he had studied the conditions of the hospital and of the future medical school and had learned the requirements of the situation, he made his plans and installed his system. The results he obtained, the obstacles he overcame, the men he trained, the standards he set and maintained, were proof of his broad vision and of his tendency and capacity to make his practice conform to his ideals.

In Dr. Osler's organization and management of a medical clinic there were three outstanding features that deserve especial mention. The first of these was the arrangement for a graded whole-time resident staff among whom the responsibilities of the work could be divided. Besides the medical

internes who lived in the hospital for a year, this graded staff included a group of senior men, namely the resident physician and several assistant resident physicians, each of whom lived in the hospital for several years in order to assist in the work of the clinic and to train himself for the higher walks of internal medicine. Among the men who served as resident physicians under Dr. Osler may be mentioned Lafleur, Thayer, Futcher, McCrae and Cole. A second distinctive feature consisted in the extension and better systematization of the courses of instruction in clinical diagnosis and in therapy, including the establishment of a systematic course in the application of laboratory methods to the clinic. And the third notable feature was the arrangement for the clinical clerkships for fourth year students, who, during one-third of the time of their last year in the school, gave their whole time to the work of the medical wards, each student thus becoming for a period a member of the working staff of the medical clinic, actually helping in the diagnosis of disease and in the treatment of patients. The routine examinations made by these senior students, who had already had a training in methods in their third year, set the medical internes and the upper resident staff free to do higher work. These clinical clerkships for the students and the long tenure of office for the members of the upper resident staff and all that these implied gave unusual opportunities for training in internal medicine in the Johns Hopkins medical clinic. Though Dr. Osler's organization included many other notable features, the three mentioned—upper resident staff, systematic clinical laboratory courses, and clinical clerkships were of paramount importance.

To those of us who were privileged to work in Dr. Osler's clinic in the early days of the hospital, the place will always be remembered as a kind of paradise, as groves Elysian, Fortunate Fields. Thinking on those times, we, who were tyros then, feel like exclaiming:—

> "Bliss was it in that dawn to be alive,
> But to be young was very heaven!"

It was natural that many Canadians should have been attracted to Baltimore to work with Dr. Osler. Futcher, who has written on his influence on the relation of medicine in Canada and the United States, gives a list of them, including besides himself and myself, H. A. Lafleur, Harold Parsons, John Hewetson, Thomas McCrae, the late John McCrae, W. G. MacCallum, the late J. B. MacCallum and Norman Gwyn.

As a practitioner of internal medicine, inside the hospital and outside it, Dr. Osler set a salutary example. It has been given to few men so closely to practise what they preached regarding diagnosis and therapy. No matter to what domain the patient's presenting symptoms seemed to belong, he was examined thoroughly in all domains according to a systematic plan that left nothing of importance uninvestigated. The practice of dictating full notes on the findings as the examination proceeded not only made for objectivity, but led to the accumulation of a set of records that later proved valuable for statistical study. Moreover, the careful physical examinations made appealed to the patients' intellects, inspiring their confidence. But of equal importance in the inspiration of this confidence was the personality of the examiner—his poise, his obvious personal interest in his patients, his charity for the frailties and weaknesses of human nature, his cheerfulness and his humor; all of these in turn favorably influenced the emotions and the wills of the sufferers.

Some have criticised Dr. Osler as having been unduly pessimistic regarding therapy, and have accused him of therapeutic nihilism. This criticism was not well founded. True it is that he waged war on the "shotgun prescription" and on polypharmacy in general. And he would not, it is true, deceive himself regarding the possibilities of therapy; on the contrary, he faced reality, and helped his patients suffering from incurable diseases bravely to meet what they had to meet. No therapeutic measure known by him to be of value was, however, neglected. Anything that he believed would really help the patient in a therapeutic way was applied, either by himself or by some member of his staff.

Patients flocked to him from near and from afar, and, had

he been a different type of man, his work for the hospital and medical school would easily have been encroached upon. The rich material rapidly drawn to the Johns Hopkins Hospital was attracted there largely through his influence. As his reputation and his prestige grew, the demands upon him as a consultant became great. His feeling of responsibility to the hospital and medical school was, however, so keen that he did not allow practice to interfere with his academic work. He kept his private practice circumscribed to a few hours of each day and to a limited number of long-distance consultations. His refusal to have a telephone at his house was due to his desire to prevent interruption from the outside. No appointment could be made with him except through his secretary, Miss Humpton, who protected him from importunate calls and limited the number of interviews that were held during his office hours. I remember an incident that illustrates very well his tendency to give preference to the scientific side of medicine as contrasted with its financially remunerative side. In the early '90s, when I was assistant in the Pathological Laboratory, he asked me to accompany him to Elkton, Maryland, a distance of some forty miles, and to perform an autopsy on a patient he had seen earlier in consultation with Dr. Ellis of that town. After the examination had been made, Dr. Ellis took me aside and said: "It is a very strange thing that it is only occasionally that Dr. Osler can find time to come and see a patient with me in consultation when a large fee is involved, but on every occasion when I have asked him to attend an autopsy he has accepted the invitation at once."

Some clinicians enjoy a large reputation with physicians and patients at a distance, but are relatively little in demand in their home cities. Though the majority of Dr. Osler's patients came to him from a distance, he was honored also with the confidence of the physicians and patients of Baltimore. Indeed, it was often humorously remarked that it was unfashionable to die in Baltimore without first having been seen by Dr. Osler. No one recognized more than he the futility of many of these death-bed consultations, except for the comfort they gave to the family and the attending physician, but the giving of this com-

fort was felt by him to be worth while. A sympathetic regard for common human feeling was characteristic of Dr. Osler.

As a teacher of medicine, Dr. Osler wielded a wide influence, and no one in our time has been more popular among students and physicians. His teaching, though modern and scientific, was eminently practical. He laid most stress upon bringing the student into contact with the actual clinical materials as objects of study, and he believed that the way to learn was to do. He worked with his students, and, by the example he set, exerted constantly a stimulus to careful clinical investigation. A keen observer himself, he taught his students how to use their own sense organs in clinical observation and to trust them. He insisted upon the maintenance of accurate records and upon the systematic analysis of these, from time to time, for publication. Taking a group of students with him he would follow a patient to the X-ray laboratory, to the operating room, or after death, to the autopsy room, in order, in these ways, personally to control the clinical study. Very familiar with medical literature himself, he would send the student to the library to consult a recent article, or one of the original sources, bearing upon an interesting topic suggested by the findings in some patient in the wards.

For many years Dr. Osler invited groups of students to visit him at his house, 1 W. Franklin Street, on Saturday evenings. At these informal gatherings the work of the week was discussed, after which "the Chief" would entertain the group with talks on medical history and bibliography. Those evenings are looked back upon with delight by all who were privileged to enjoy them.

The students and assistants had no feeling of being forced or driven in his wards. The work was made so attractive for them and the teacher's example was so contagious that students felt it a privilege freely to spend their time and lavishly to expend their energies in performing their duties in the clinic.

Certain special characteristics of Dr. Osler as a teacher are worthy of mention. No effort was made by him to cover in his course the whole field of internal medicine. His tendency was rather to concentrate the teaching upon certain of the com-

mouer diseases—pneumonia, typhoid, tuberculosis, syphilis, myocardial insufficiency, aneurysm, nephritis, pernicious anemia, arthritis and the like—illustrating on patients suffering from these diseases the methods of accumulating clinical data, of arranging them, and of drawing inferences from them. Like most great clinicians, he gave preference to the simpler methods of physical examination, made use of a plain language, easily understandable by his students, and made them feel that there was nothing in practical medicine that the student of fair intelligence and industry could not learn. He was an enemy of the mysterious, the grandiose, the pretentious, and the occult in medical practice. He had the happy faculty of emphasis by means of epigram, drollery, and humor. Dr. Osler was a teacher of ethics as well as a teacher of medicine. Many of his phrases and his quotations from favorite authors will stick always in the memories of his hearers. What student of his will ever forget the "Bardolphian facies," the effects of "worship at the shrine of Bacchus, of Venus, and of Circe"; the importance of good health and the restraint of "the bridle of Theages"; the necessity of freeing oneself from "Plato's den" long enough to see the realities; his contempt for the "Gehazis who served merely for shekels"; his animosity for the "lock-and-key laboratory"; his praise of the virtues of taciturnity and equanimity and of the art of detachment; his citation of Landor's advice regarding the choice of companions—"to walk with Epicurus on the right and Epictetus on the left"; his approval of Burton's command in the treatment of melancholy: "Be not solitary, be not idle"; his suggestions to those who are discouraged: "Consume your own smoke" and "Whistle that you may not weep"; his advice to the young clinical aspirant: "Keep your cerebellum on ice," "There must be no sporting with Amaryllis in the shade," "You must avoid the tangles of Neæra's hair"; or his warning against doubt and anxiety for the future, citing Carlyle: "Your duty is not to see what lies dimly at a distance, but to do what lies clearly at hand?" And what practitioner of medicine who has been under his influence will forget the necessity of the "quinquennial brain-dusting" at a post-graduate school; his warning against

the "apathy deep as Rip Van Winkle's sleep"; his laughter at those who have "specifics for every ill from the pip to the pox"; his admiration for the practitioner who has a "nature sloping towards the southern side"; his pointing out of the dangers of the temptation of "toying with the Delilah of the press"; his condemnation of the "doctor who will damn his colleague with faint praise"; or his advice to the medical practitioner, "Never believe what a patient tells you to the detriment of a brother, even though you may think it to be true?" A hundred such aphorisms and citations might easily be compiled from the notebooks of his students and from his published papers.

As an investigator, Dr. Osler, while in Baltimore, pursued the definitely clinical type of study rather than the experimental, though be encouraged experimental research by his assistants and students. He made careful statistical studies of typhoid, tuberculosis, pneumonia, splenic anemia and abdominal tumors. He was always on the lookout for new or less common syndromes, such as chronic adhesive pericarditis with proliferative peritonitis, meralgia paresthetica, giant colon, Mikulicz's disease, hemochromatosis, the visceral lesions of the erythema group, polycythemia with splenomegaly, family epistaxis, intermittent claudication, heart block, epistaxis in cutaneous angiomata and ochronosis. By careful clinical observation he was able to make important additions to a number of these syndromes.

During his Johns Hopkins period, Dr. Osler was a prolific writer on medical and general subjects and was much in demand as a speaker before medical societies and on commemorative occasions. As author and speaker he seems to have planned to divide his effiorts so as each year to write several medical papers, to read one or two historical papers, and to give one or two general addresses to medical students, to practitioners, or to the public. His *Principles and Practice of Medicine* appeared in 1892. This textbook has gone through eight editions, has had a sale of more than one hundred thousand copies, and has been translated into several foreign languages. His papers upon typhoid fever and its complications, different phases of tuber-

culosis, abdominal tumors, chorea and choreiform affections, angina pectoris, pneumonia, infantile myxedema, Banti's disease, cerebrospinal meningitis, cancer of the stomach, family epistaxis, intermittent fever of hepatic origin, chronic cyanosis with polycythemia and enlargement of the spleen, and the visceral manifestations of the erythema group, are well known to the profession. It was during his life in Baltimore, too, that he made his addresses on *Weir Mitchell* (1890), *Virchow* (1891), *Charcot* (1893), *Oliver Wendell Holmes* (1894), *The Alabama Student* (1896), *John Keats* (1896), *Thomas Dover* (1896), *Louis* (1897), *William Pepper* (1899), *Elisha Bartlett* (1900), *John Locke* (1900), *Alfred Stillé* (1902), *William Beaumont* (1902), *Richard Morton* (1904), *Jesse Lazear* (1904), and *Sir Thomas Browne* (1905). During the Baltimore period, also, he delivered some of his most interesting general addresses. Among these may be mentioned *Doctor and Nurse* (1891), *Teacher and Student* (1892), *The Army Surgeon* (1894), *The Leaven of Science* (1894), *Teaching and Thinking* (1895), *The Functions of a State Faculty* (1897), *Nurse and Patient* (1897), *Internal Medicine as a Vocation* (1897), *After Twenty-Five Years* (1899), *The Importance of Post-Graduate Study* (1900), *Books and Men* (1901), *Progress During the Past Century* (1901), *The Natural Method of Teaching Medicine* (1901), *The Study of Internal Medicine* (1901), *Aspects of American Medical Bibliography* (1902), *Chauvinism in Medicine* (1902), *The Educational Value of the Medical Society* (1903), *The Master Word in Medicine* (1903), *Science and Immortality* (1904), *Unity, Peace and Concord* (1905), and *The Student Life* (1905).

Nowhere, perhaps, better than in Dr. Osler's publications can be found reflected the state of internal medicine, of medical education in general, and of the medical ideals, of our time. His published volumes and papers will always be a valuable mine for anyone who, in later years, desires to familiarize himself with medical conditions in the United States between 1889 and 1905.

Medical associations of many sorts were attended and fostered by Dr. Osler. He went regularly to the meetings of the Balti-

more City Medical Society, the Medical and Chirurgical Faculty of Maryland, the Association of American Physicians, and the American Medical Association. His work in building up the Maryland State Faculty has been commemorated by the dedication of "Osler Hall" in his honor in the new Faculty building. He believed in medical societies as the best corrective of the egoism that the daily round of a busy practitioner tends to develop, and said that "a man misses a good part of his education who does not get knocked about a bit by his colleagues in discussions and criticisms." Medical societies, in his opinion, do much, too, to prevent the formation of cliques and coteries of the baser sort and to dissipate jealousies and misunderstandings. The friction of the medical society, he urged, goes far toward the prevention of premature senility in the physician. It is one of the best means of counteracting intellectual stagnation. Dr. Osler believed so greatly in the importance of the functions of medical societies that, besides attending those already established, he took an active part in the formation of a number of new associations, including the Johns Hopkins Hospital Medical Society, the Johns Hopkins Historical Club, the Lænnec Society for the Study of Tuberculosis, the Maryland Association for the Study of Tuberculosis, and the National Association for the Study and Prevention of Tuberculosis. Shortly before leaving America he organized the Interurban Clinical Club, composed of a group of young men from Baltimore, Philadelphia, New York and Boston, the meetings of which are held in each of these cities in turn. Its programmes consist, not of papers, but of exhibition of cases and demonstrations of actual work in wards and laboratories, members being transferred from the active to the honorary list when the age of fifty is reached. Similar clubs have since been formed in other parts of the United States. Most of the larger general, and not a few of the special, medical associations of the United States and Canada were addressed by Dr. Osler at one or another time during his Johns Hopkins incumbency.

The adequate maintenance of medical libraries was regarded by Dr. Osler as of great importance for the welfare of the medical profession. The effort required, the unifying of the

profession that results, and the progress favored, make the organization and maintenance of a medical library well worth while. "It does good," he said, "to men who start it, who help with money, with time and with the gifts of books. It does good to the young men, with whom our hopes rest. And a library gradually and insensibly moulds the profession of a town to a better and higher status." In his *Books and Men* he says: "To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." In Baltimore he organized the Book and Journal Club, an association whose members made a contribution each year to the library fund of the Medical and Chirurgical Faculty. He secured also a number of special funds for library purposes and gave money and books freely himself to the libraries closest to him; indeed, many a distant library owes valuable books to his generosity. He was instrumental in the cultivation of closer association among medical librarians in different parts of the country, and often attended a society organized for this purpose. His love of books and his interest in the history of medicine endeared him to medical bibliographers and medical historians everywhere.

While at the Johns Hopkins Hospital Dr. Osler manifested in an extraordinary way his capacity for personal friendship and his enthusiasm for public service. His interest in public health, in social betterment, in the improvement of education and in the higher ideals and standards of conduct contributed largely to his wider influence in the profession, and with the public. Many feel that, great as he was as a physician, he was even more distinguished as a personality. His humaneness, his power to inspire affection, his humor, his simplicity, his democracy, and his hospitality (seconded by that of his gracious wife) were an inspiration to all who knew him. One has only to read the appreciations of this side of Dr. Osler's life that have recently appeared—the articles by several of his former friends and students in the Johns Hopkins Hospital Bulletin for July 1919, the tribute of Dr. Thomas McCrae in the *American Journal of Medical Sciences,* that of Dr. Richard Cabot in the *New York Evening Post,* that of Dr. Harvey Cushing in the

Boston Evening Transcript, that of Dr. William H. Welch in *The Survey*, a brief article of my own in the *Baltimore Evening Sun*, and, above all, the *éloge* of his close associate, the present occupant of the chair of medicine in the Johns Hopkins University, Dr. William S. Thayer, in *The Nation*, to gain some idea of the personal qualities that made him so much respected, admired, and loved. His personal appearance at the end of his Baltimore period has been permanently recorded in portraits by Seymour Thomas and by Sargent.

In the death of Dr. Osler the world mourns the loss, not only of a distinguished internist, who worked with an almost demonic energy, but also of one of the most ardent and beneficent spirits of our time.

OSLER AT McGILL—1870-1884

FRANCIS J. SHEPHERD, M.D., LL.D., F.R.C.S.

I FIRST met Osler in the autumn of 1870 at the old Cote Street School of the Medical Faculty of McGill. He was then a keen-eyed, alert, spare young fellow with an enormous amount of energy. He did not trouble himself cramming for examinations, as so many did at that time, but was devoted to his microscope (a rare instrument then), always working in the post mortem room or wards of the hospital. He was the friend of everybody, and intensely interested in medicine, was an incessant worker (not a crammer), had an insatiable thirst for knowledge, and worked to learn his profession, not to pass his examinations. At the final examinations he took a special prize for his thesis. This was on "Pathological Anatomy," illustrated by numerous specimens. In the Faculty's announcement in the following year this is found: "The Faculty has in addition, this session, awarded a special prize to the thesis of William Osler of Dundas, Ont., because it was greatly distinguished for originality and research, and was accompanied by thirty-three microscopic and other preparations of morbid structures kindly presented by the author to the Museum of the Faculty."

After graduation he spent the next two years in London, Vienna, and Berlin. I met him in London in the autumn of 1873 and read the proof of the first paper he presented to the Royal Society, of which he afterwards became so distinguished a member. On the retirement of Professor Drake at McGill in 1874 he was appointed Professor of the Institutes of Medicine, which was the name of a Chair which included pathology and physiology.

Dr. Osler was a most successful teacher, and made morbid anatomy a feature in the curriculum of the Faculty. He gave weekly demonstrations to the whole body of students, and many medical men attended these classes. He instituted the first laboratory for the study of practical physiology, as also many reforms in ways of teaching, and introduced new and promising men. He brushed aside with his usual iconoclasm old traditions and methods which had become obsolete. He was loved by all the younger men and most of the older, but by some was thought too stimulating and reactionary. He was appointed to the charge of the smallpox hospital, which at that time was attached to the General Hospital, and he published as a result of his experience there his valuable paper on "Prodromal Rashes in Smallpox." He always attracted young men, and was attracted by them, and was most suggestive as to the lines of work suitable to the student. Not only did he teach well, but he stimulated others to seek after truth and communicated to students and colleagues his own enthusiasm.

In 1878 he was appointed attending physician to the Montreal General Hospital, where he had already been pathologist for some years, and here in the post-mortem room and wards of the hospital he gained most of the material and information out of which his great work on the "Practice of Medicine" was written at Johns Hopkins University some years later. Osler succeeded Dr. Craik as Registrar of the Medical Faculty, and thus came in close and early contact with the students, and many a student has been guided into the right paths and prevented from gliding down the slopes of unrighteousness—how many he alone know. The Students' Medical Society, of which he was one of the founders, always interested him, and this now

flourishing society received much inspiration from him. He was a most active member of the Medico-Chirurgical Society, and his influence was most beneficial, for he reconciled opposing factions, and all met here on a common ground of friendship. So that in his time, and after, this society did splendid work. For some years before he left McGill Dr. Osler reported its proceedings in the Philadelphia *Medical News.* When he was going to report a meeting he notified members to do their best and furnish material; so any one who looks up the files of the *Medical News* for 1880-85 will be surprised at the good work done by this very lively society. Osler himself contributed most of the pathological material which came from the General Hospital, to which he was pathologist.

Heretofore I have spoken of the subject of this paper in his serious working vein, but there was another side to his character. He had in great abundance of that saving grace, humor. Osler had an infinite capacity for practical joking. These jokes were perpetrated on his medical friends, and were often most amusing. He had under a *nom de plume* imposed on his editor friends by sending them some amazing medical articles, some of which have been printed, and the author quoted on certain subjects as an authority, even in Germany, and some have seriously disagreed with his conclusions. This gave great entertainment to himself and the friends who were in the secret. He was a member of a Doctors' Dining Club, which met once a month; without Osler the proceedings were tame! Alas! only four out of the twelve are now alive. Practice did not disturb Osler much during his residence in Montreal; in fact he had no time for it, for what with his college work, hospital and post-mortem work, and attending various meetings of societies at home and abroad, the time others gave up to practice was thus absorbed. He had office hours, but I doubt if he ever kept them. However, before he left Montreal for Philadelphia he was often called in consultation by his old students and by some of his colleagues and many of the medical men of the city. Osler used to tell a story of being called in consultation with a very taciturn old doctor on a case of typhoid fever. After the consultation was over the old doctor said: "Young man, you talk

too much; you have told these people more in fifteen minutes than I have in fifteen years." Osler said he took this advice to heart and always remembered it.

Three men greatly influenced Osler's life—(1) the Rev. Mr. Johnson of Weston, Ontario; (2) Dr. James Bovell of Trinity College, Toronto; and (3) Dr. R. Palmer Howard, Professor of Medicine at McGill University. Howard was an able, earnest physician whose teaching and example impressed all students who were brought into contact with him. He was an exceptionally good clinical teacher and a competent pathologist. He at once saw what an exceptional man Osler was and encouraged his clinical and pathological studies in every way, both when he was a student and afterwards as a colleague. Osler always admitted the great debt he owed to Palmer Howard.

Whilst in Montreal he was asked to deliver the Gulstonian Lectures at the Royal College of Physicians, London. This he did in 1885 on "Malignant Endocarditis." The specimens illustrating these lectures are still in the Museum of the Medical Faculty. He had been elected a Fellow of the Royal College of Physicians in 1883.

Osler always had a host of friends, not only amongst the English, but the French, and also amongst those who were antagonistic to McGill, for there were such. Not only did he make many friends, but he kept them. He had a great love for books (not only medical books), and he collected rare editions. His chief idol was Sir Thomas Browne and his "Religio Medici." I think when he died he had every edition ever published of this work. He was a born collector and took a vital interest in the welfare and success of the Museum. He, with Dr. Fenwick in surgery, were the chief members of the Faculty who built up the splendid museum. In the fire of 1907 most of Dr. Fenwick's specimens were destroyed, but Dr. Osler's being in the front part escaped destruction.

He was a most inspiring teacher, both in the lecture room and the wards of the hospital. Dr. Geo. Ross and William Osler revolutionized clinical teaching at McGill. Both were most acute diagnosticians and very logical in their methods. Osler was always kind and gentle with his patients, for he was

essentially human, and treated his patients as human beings. He had a very retentive and accurate memory for what he read, and his reading was extensive; he also had a great faculty for remembering people.

At the time he was at McGill there was a very active veterinary school affiliated with McGill, and under the direction of Duncan McEachren, D.V.S. and F.R.V.C., Osler lectured to the students of that college in physiology and pathology, and performed all the post-mortems on the animals which died in the hospital. In this way he acquired an extensive knowledge of comparative pathology. Nothing was too much trouble to him if a post-mortem was in view, and many a device and pretext he made for obtaining a post-mortem on an interesting case.

In 1884, while he was in Europe, he asked me to look after his correspondence and send on the important letters. One morning I opened an American letter and found it to be from Dr. Tyson, of Philadelphia, asking Osler to be a candidate for the Chair of Clinical Medicine at Pennsylvania University. When he received the letter he thought it was a joke perpetrated by me, having somehow obtained the official paper of Pennsylvania University, especially as I had recommended him to accept the offer. We often played jokes on one another, and Osler was the worst offender. I advised him to accept the Pennsylvania offer as I felt he was a big enough man to work in a larger sphere, and that he had outgrown Montreal. When he left us, after affecting scenes at a parting lunch given him by his most intimate friends, what a void there was. But the spirit he had created and the influence of his stimulating personality remained, and was continually renewed by his frequent visits to us, and we often visited him.

He was a great man, and on looking back I now know what a great factor he was in moulding the policy and inspiring the methods of teaching at McGill. By his inspiration he created an *esprit de corps* amongst teachers and students which lasted for many years, and which has not yet exhausted itself.

SIR WILLIAM OSLER'S INFLUENCE ON MEDICAL EDUCATION IN THE UNITED STATES

ALEX. MCPHEDRAN, M.D., TORONTO.

OSLER'S influence on medical education in the United States can scarcely be exaggerated. To it is largely due its great advance in the end of the last century and the beginning of this.

Osler received his training in one of the best of our Canadian Schools, and followed it by graduate training in London, Berlin, Vienna and Leipsic. In all these seats of learning, especially in London, his education was pursued with the privilege of close study of disease at the bedside, and he brought to these privileges a well-trained mind of high order, ardent, enthusiastic, scientific and of sound judgment. To all these were added a personality of great charm which attracted many devoted followers who were infected by his own enthusiasm. His own work was of the highest value, but perhaps his greatest success lay in the enthusiastic devotion of his associates from whom he brought out the best that was in them. In all this he pursued his course with unbounded confidence without which his great success would have been impossible.

At the time he went to Philadelphia and, later, to Johns Hopkins, the clinical teaching in the United States was wholly by lectures in the theatre and to large classes in the wards. There was no personal examination of the patients in the wards by the students or by the clinician in their presence. It was, therefore, to a virgin soil that Osler was called.

In the nineties on my way to New York I met in with Osler going there to give an address the following evening on the teaching of clinical medicine in the Academy of Medicine. There was a full house, some being present from outside parts. In the address he advocated, of course, the bedside method of teaching and the free access of the students in order to examine the patients, secure histories, and carry out the necessary laboratory examinations as had been the custom in Canada for half a century or more. It was a clear, forceful exposition of the methods, their results, and the imperative necessity of bedside

work for preparing the student to become a capable practising physician, and a scientific investigator. Except myself in a few remarks in support of his views and on Canadian experience for many years and that in our view the method was essential to the proper training of the student, every one else regarded the method impracticable, and impossible to carry out as neither the patients nor the patrons of the hospitals would tolerate the plan. Their large palatial hospitals were built in most cases by men of large means, who, nominally at least, regarded all men as equal, therefore, not to be subjected to what seemed to them, the indignity of being examined by students. They did not know that the interests of the patients were best served by such a course. Neither did they realise that the functions of a hospital include the training of physicians and nurses for the care of the many in all parts of the country for whom hospitals are not available.

In conversation after the meeting several of the leading clinicians gave free expression to views opposing the bedside method, although they had never attempted to put the plan in practice. At a clinic the following day at which I was privileged to be present, the clinician took a large class into the ward and from the centre of the room he pointed out two patients, one of acute meningitis and unconscious, the other of pneumonia, showing from the distance no special symptoms, and there he discussed the symptoms, diagnosis, prognosis and treatment. Naturally such work fails to give the student the practical training necessary to enable him to cope with the difficulties of the practical work of a physician.

Fortunately for the physician, as well as the public, the "propaganda," although spreading slowly, has borne fruit. It was not until the Hopkins' graduates began to be appointed as teachers in universities throughout the United States that Osler's ideals of teaching, not by didactic lectures, but by work in the ward, and the laboratory, began to be appreciated. From that time the method spread rapidly and soon became widely, if not universally adopted. It was during these years and since then that American Medicine made its striking advance.

In the close association of the laboratory with the clinic the

rapid growth of the system owes much to the co-operation of Dr. Welch and other members of the staff of Johns Hopkins Hospital. It is not too much to claim that to the ardent work of Osler, Welch and their associates is owing the phenomenal development of medical science and research in the United States during the last three decades. Without doubt the birth of this advance can be justly claimed for the bedside clinic and its handmaid the clinical laboratory, in both of which the student was trained to think as well as work. Were this his whole work it would entitle him to a world-wide reputation. These causes which have led to the remarkable advance in medical education and research in the United States suggest lessons which our Canadian Universities need to lay to heart.

OSLER AS A TEACHER

HAROLD C. PARSONS, M.D., M.R.C.P., LONDON.

As a teacher Sir William Osler will always be remembered as one of the greatest of all times.

His medical knowledge and ability all will admit, but it was something more that made his influence so great. His personal charm, his knowledge of men, his kindliness, especially to young men, bound him closely to the student body and to his hospital assistants, and created an atmosphere of admiration and loyalty that bridged that gulf too often fixed between the teacher and student, and which we know is frequently the barrier to a proper spirit in a teaching centre.

Charity, and consideration for the feelings of others, which he preached as the basis of unity, peace and concord in the profession, he practised in his daily life, and in his relation with his students and assistants, and in my long period of service with him I never heard him say a harsh word, administer a sharp reproof or give offence to any one.

His medical honesty produced a profound impression upon those working with him. By medical honesty I mean an ap-

preciation of one's limitations. Let me quote his own words: "Learn to play the game fair, no self deception, no shrinking from the truth; mercy and consideration for the other man, but none for yourself, upon whom you must keep an incessant watch," and he lived up to it, and it did one good to see a man big enough and honest enough to confess to his mistakes as he did, and he took every opportunity to point out to his students where he had failed, and would say, "Let us learn from this." This is a rare quality. Of autopsies he wrote: "While of special value in training the physician in diagnosis, it also enables him to correct his mistakes, and, if he reads his lesson aright, it may serve to keep him humble." This self-examination, this periodical taking stock of one's self, was often and strongly urged by him. It was good advice, good doctrine, and he lived up to what he taught.

He was a great reader, he was also a student of men, and his sense of proportion was fine when he warns the young man that "A bookish man may never succeed," for, "deep-versed in books he may not be able to use his knowledge to practical effect, or more likely his failure is not because he has studied books much, but because he has not studied men more," recalling the old motto, "Read not books alone, but men, and above all read thyself."

To make a ward visit with Dr. Osler was a real treat. There was more than medicine to be learned. His enthusiasm and optimism were infectious; he always struck one as being thoroughly happy in his work. The devotion and loyalty of his students and assistants, and his response to it, created an atmosphere that one felt, but cannot describe. He had a ready wit, and an occasion for genial humor was rarely missed.

His profound knowledge of medicine saw something of interest in every case, and he had the most attractive way of summing up the essentials and laying the facts and conclusions before his hearers in a simple, clear cut, and digestible form. In all his teaching he chose the patient as the text from which to teach.

He never talked over the heads of his students; he fed them with simple food. There was no bedside oratory.

We shall all remember his kindliness. He knew everyone, and had a cheery word for each, and it was always nicely tempered to the case, and his manner to his clinic patients was a model of consideration and kindness each and all of us may well seek to emulate.

He took a keen interest in the younger men working with him. They were encouraged to take up special studies, in addition to, or arising out of their daily routine. In the preparation of these papers he took a personal interest and gave his counsel, and was instrumental in having them published in some good journal, and you will notice that in the successive editions of his work on medicine each one received due credit for his work.

He preferred the "teaching of the life rather than that of the pen," and while the influence of his writings has been so powerful and so widespread, those of us who knew him intimately will always value the lesson of his life as one of our fondest memories, for in him was exemplified a great physician, a noble character, and the highest ideals in medicine.

SIR WILLIAM OSLER

C. K. CLARKE, M.D., TORONTO.

The death of Sir William Osler removes from the realms of medicine the one best loved by all classes of English-speaking physicians. The affection felt for this many-sided man was universal; and while it is true that he was born and educated in Canada, and was always a Canadian in heart and sentiment, yet each country in which he resided at different periods of his career felt that he belonged to it, and it alone. Osler to the American scientific world was simply " one of them," and when Britain claimed his services there was a note of surprise and regret that he should leave the United States which had accepted him so completely. Canada always deplored the fact that so brilliant a son should have wandered far from home, and yet was proud to see him a brilliant ornament in the world of medicine. Our resources have always been so limited that it

has been difficult to keep the most distinguished of our scientists at home, and we have had, reluctantly, to bow to the inevitable, hoping that the day was not far distant when we could retain those who would add even higher distinction and honor to our country. England regarded Osler as one of her own, and heaped well-merited honors on him in profusion.

Osler, as a man, represented a type far too rare even in the medical profession, which, on the whole strives for the highest ideals. Gifted with a warm heart, a keen sense of humor, a wonderful capacity for work, as well as a genial manner, he inspired all those who were honestly striving for better things, with the assurance that he was personally interested in their achievements. No one left Osler without feeling better for the interview, he was so genuinely sympathetic and appreciative. To the young man he was peculiarly attractive and inspiring, always pointing out to him the road to success—a road, he explained, beset with difficulties and trials, but well worth travelling, as it led to the only things worth having in life. Young men responded at once to his magic touch and felt a love and reverence for him not difficult to understand, when it is remembered that in the hurly-burly of competition the ethical niceties are too often forgotten, and the young man made to realize that he is looked on as an intruder rather than a desirable addition to the army of physicians.

In literature, Sir William succeeded as admirably as he did in everything he attempted, and in this field won a name that will be known in the years to come, when the magic of his personality is no longer remembered.

Altogether it may be said that the death of Sir William Osler removes one of the greatest names in medicine the world has ever known.

SIR WILLIAM OSLER—EARLY INFLUENCES BEARING ON A GREAT LIFE*

NORMAN B. GWYN, M.D., TORONTO.

In the world-wide mourning over a master's death the profession in Toronto and Canada have a sense of affliction that is theirs and theirs alone, the sense of affliction belonging to a mother bereft, for Osler was indeed the child of the old Canadian profession.

Child and inheritor of all the best Canadian professional traditions, he was nursed and guided into adolescence by teachings and influences centring largely about Toronto, influences and teachings known to many of us by their persisting results, and hence of more than passing interest.

Born in 1849, a few miles to the north of us in the small village of Bondhead, this youngest son of a vigorous missionary was a spectator of the strenuous life of a country parson in a then rough district, and must have early recognized the meaning of a day's work well done, for in the life of his two parents few moments were ever wasted, the exchanging of a sailor's life (midshipman on three of his majesty's ships of war) for Cambridge, and the call of the mission field is the thoughtful life's progress of one parent, whilst eighty years of fruitful activities best or briefly describes the character of the other..

A love of work, his "master word in medicine"; sincerity the keynote of his existence, and a generous charity of mind descended easily from two such forebears or developed the more readily in their presence.

Rough as the Holland district then was, yet certain conditions prevailed which must have had a distinct influence on the Osler boyhood. Scattered through the north of York were the homes of educated Englishmen from the army and other callings, and in their houses the far-travelling missionary, the Cambridge graduate, familiar with his Greek and Latin, must have often found relief from the daily

* Written at the suggestion and request of Dr. Allen Baines, now unavoidably absent from the city. Much of the above was furnished by Dr. Baines and Dr. Jukes Johnston, to whom I tender my sincere thanks.

round and have been welcomed in turn; here and there were other graduates of English universities establishing schools, small but important in the new communities; the keeping up in some small way of an old world culture, the giving of an education to the sons was possible, and, luckily for us the keeping high the standard was one aim in life to many parents of those days.

The Bondhead parsonage instillations—"Honor, faith and a sure intent," re-inforced by the already crystallizing life patterns of the elder children, must, however, always be considered as an assumed or a granted condition, for a charted record of her children's early days was no part of the daily routine of the busy mother of eight. One can realize, however, that in the early so-called formative period of Osler's life the moulding influences were stamped with simplicity and strength.

Infancy is passed; boyhood with its school-days begins. The boyhood itself was short, "Johnston, priest of the parish of Weston—Bovell of the Toronto School of Medicine," two of the trinity of his influences to whom his text-book is dedicated, saw its beginning and its ending, perhaps eight years.

The beginning under Johnston at the small school in the parish of Weston saw the development of many of those characteristics which followed him to the full blown glory of Regius professor. He was "an influence for the good," to such an extent that his continued presence in the school was asked for by its head, "a leader of his classes" were expressions found in a detailing of his life, but on the other hand from Johnston the priest, teacher, student of science, he received his first lessons in the use of the microscope. Early recollections on the part of members of the Osler family deal largely with the young brother's expeditions in search of zoological specimens. The little leaven of exact and scientific observation so productive of great results was a boyhood's acquisition.

Bondhead shifts to Dundas; Weston becomes the school for boys at Port Hope. In both places one hears of the keen young face, wise beyond its years, but sociable, human and already expressive of so much that went to make the Osler character. In the minds of his old boyhood acquaintances one finds

that Osler lives as an unusually attractive personality interested in his studies, already devoted to his reading and his sciences, but taking part in the school activities and sports, in fact, more often than not the leader in many a bit of schoolboy mischief. A late boyhood episode, harmless as it was, brought him under the eye of a not too lenient magistrate.

School days finish; at sixteen or seventeen the boy in the small town so often and for many reasons takes the first steps away from home influences out towards the world; Port Hope gives up to Trinity the boy "whose influence had always been for the good"; Dundas gives to Toronto the youth whose industry, good nature, high spirits and sincerity are now a precious memory; the boy becomes a university student preparing for a life in the church, his parent's dearest wish. Boyhood is finished, the work of life begun, or rather continued, for we have it on all sides that long before the entry to Trinity, Osler was already a thoughtful, forceful man. True to his English traditions, he has left these thoughts unspoken, preferring that their record should be written in his daily actions.

The country parsonage, the parish priest at Weston, a year's studies in divinity, made each their imprint on the young and forming character. The lessons of true Christianity were never better given or received. His life, his works, have been made the more wonderful and beautiful thereby, but the great decision by which each man terminates his youthful vagaries had not yet been made, no disturbing doubts had been expressed, nothing had seemed to cloud a happy year's work in the studies chosen for him, yet a revolution was approaching; the chance words of a comrade, student in medicine, the introduction to a compelling medical influence, and there came to an end, perhaps, in a few short days, the preparatory life and boyhood of the man destined to be the world's leader in his chosen calling.

A TRIBUTE FROM PRESIDENT OF THE UNIVERSITY OF TORONTO*

A GREAT world figure has been removed from his place in the death of Sir William Osler. It is doubtful indeed whether any Canadian has been more widely known, and few assuredly,

* Extract from address to students.

if any, have left so enduring an impression for good upon mankind. Sir William Osler was a great lover of men; kindness radiated from him; his constant thought was directed towards what may be described in the title of one of his addresses as "Man's Redemption of Man." This beautiful character had in its service a rare intellect, acute and diversified. He was not only a leader in medicine, but literary skill and wisdom adorn his essays which lie on the border-land of medicine and human character.

Sir William always retained a warm affection for his own country, and gave frequent proof also of his interest in the faculty of medicine of this university, though he was not one of our graduates except as holding the honorary degree of Doctor of Laws.

What his hand found to do he did with all his might, and his kind heart gave the impulse to his hand towards those things that were fair and honorable. The memory of this great Canadian may well be an example for students and an inspiration for all who are striving for the welfare of their fellowmen.

DR. OSLER'S THURSDAY CLINIC AT THE JOHNS HOPKINS HOSPITAL IN 1902

HELEN MACMURCHY, M.D.

WHATEVER might be forgotten on Thursday mornings, it is safe to say that everyone in the medical world within sight of the dome of the Johns Hopkins Hospital remembered that Dr. Osler's clinic was at 12 o'clock noon. Quite a long walk through the great corridor brings us at last to the amphitheatre —turn to the right, plunge quickly across a short open passage —thread your way through the dispensary, always full at this hour. Go on eastward and you reach a large plain room with many windows—curtains which may be drawn so as to transform each of the four corners of the room into an examining room—a rattan couch in the centre, with a couple of gray blankets on it—before the couch a table with books and papers

upon it—and arranged in a semi-circle round couch and table a hundred chairs or more, filled now with men and women, Hopkins medical students—3rd year and 4th year, and doctors from England, Canada, and all parts of the United States, come for post-graduate work.

On the stroke of 12.00—a little stir at the door. Quietly comes in first, followed closely by his suite of residents and internes, a little dark man, with marvellous eyes. As you look at them, and especially after you have listened a few minutes, you wonder. . . .

"Mr. G—. What was the matter with Moses Cohen, here on November 21st, last year?"

Silence falls at the first sound of Dr. Osler's voice, but there is no other answer.

"Not here!"

"Mr. H—. What was the matter with John Wilson, here on January 30th, this year?"

Still no answer.

"Where are these gentlemen?" inquired the chief, seizing off his eyeglasses from above by the gold spring and looking round without their aid.

"Where do they hide themselves?"

"Well—anybody anything to report?"

Upon this there rose up at his left hand a stout young man in gray clothes, and reported concerning a case of convulsive tic, in which coprolalia was a prominent symptom, that there was great improvement in his patient, that her language now was only bad when she was saying her prayers.

"Yes," said the chief, "that's the way—the very time she shouldn't use bad language! You can judge for yourselves how bad the language was from the fact that a medical student noticed that it was bad."

"What is this disease called in the East?"

No reply. "Latah! There is an article on it in the Boston Journal of Medicine and Surgery," adding the month and year. "Dr. So and So," addressing one of the post-graduates, "you have seen the Maine jumpers—same thing, you know—same disease!"

"Well—anybody else anything to report?" Thereupon rose up in succession three young men. The first of them reported that his patient was in a dying condition—a case of tuberculosis; the second said that his patient was better and able to be at work, but would not take his potassium iodide ("Tell him he has to," said the doctor) and the third that he had been to three addresses and could not find his patient, who had moved. He had still one more chance to find him at a fourth address—"Take that chance," said Dr. Osler—"that was a very interesting case, very"—looking up the record as he spoke. "Now, I give you all warning," he continued, "that you have to visit your patients that are assigned to you at this clinic and tell me what becomes of them. You must have pretty definite information, too. I want to know. I will expect you to tell me, when I come to examine you, all about your patients. So now you know what to do on Sunday afternoons. Well, now, what is there for to-day?"

In came a patient in charge of a student, who laid the patient down on the rattan couch, and covered him with the gray blankets. The student gave his report. "Sit down there and look at him," said Dr. Osler. "What do you see?" This case was evidently one of catarrhal jaundice, and the patient was advised to enter one of the wards for treatment.

A few minutes before, one of the assistant physicians had called out of the room a 3rd year student. She now returned, accompanying the assistant physician, and a pale, meagre, slight girl of seventeen, in poor black attire—one of the submerged tenth. The group of three stood behind Dr. Osler, who was now sitting on his table, swinging his legs after the inimitable manner that Mr. George Grossmith used to exemplify as absolutely necessary in order to begin a histrionic career.

"The patient was embarrassed," said the assistant, softly. "What?" Dr. Osler said, turning round. "Oh, hullo!" shaking hands with the poor little girl. "How are you?" "Yes, I should think so. This is a good case to see before and after in about a month when you are nearly well again. Yes, indeed!" —all in the most kind and encouraging tone. "Well, Miss T., tell us about your patient." So Miss T. did, but Dr. Osler did

not tell the little girl to lie down on the couch, only asked her a question or two in such a low tone that none of us heard the words. "A towel!" said he, and stretched it across her chest, outside her dress, to auscultate. "Where do you work?" "Yes —a factory, of course?" "Air pretty bad?" "Yes." "Long hours?—How long?" "7.00 to 7.00." "You see," said the doctor. Then followed a masterly summary of chlorosis and its etiology and symptoms. "A disease that should never come to the consultant," said the doctor in conclusion. "Never." "And yet I see four or five cases every year. A doctor who cannot cure this disease should—well—should give up!" "What shall we give her, Miss T.?" "Yes—Blaud's pills." "Who was Blaud? Know anything about him? We knew, too, Dr. So and So," turning to one of the assistants, "but we have forgotten." "Eighteenth century. Will you bring me his picture next day? It is in the library. Yes, bring me his picture, Miss T., and bring his article. You will find it (mentioning the name of the book) in the library."

"Just shows our imbecility, as physicians, that we have a remedy for chlorosis and plenty of us won't use it. Same thing in malaria. Quinine cures malaria, and yet we have case after case coming into this hospital, having been treated with everything else. Bring her back in a month, Miss T." "Goodbye." "Well—what next?" Next was a negro woman, about 45, quiet, pale, hard-working, of a gentle disposition. Silent. The great doctor, consulting physician to His Majesty King Edward the Seventh, was in an instant engrossed in his new patient and sat down at her left on the rattan couch, making the student in charge sit down on her right. Leaning over and resting his left arm on the student's right shoulder, Dr. Osler said once more—"What do you see?" There can be little doubt that Dr. Osler recognized Basedow's disease the moment his eyes fell on the poor woman's face, but he patiently took step by step along with the student, who, chiefly from nervousness, did not do himself justice. Yet the doctor only drew attention to the student's mistakes by a more vigorous pressure on his shoulder.

"I think you would get a great deal better in the hospital,"

said the chief—"Yes"—"Come in, you had much better." "Goodbye."

Goodbye. . . . wise, kind, good. . . . was William Osler. The soul of punctuality, an inspired and untiring toiler, the soul of honor, a lover of learning and science and of the humanities, a man with a genius for friendship and with unsearchable riches of affection, he embodied in himself the traditions and ideals of the medical profession and of the English-speaking race. Few—very few—have done what he has done to unite that race and that profession—to heal their divisions and glorify their ways and work. He carried the torch—at which so many lighted their lesser torches—long and far. In the great war he bore a noble part and to the great cause he gave his heart, his labors and his only son—his only child. Sir William Osler's home, his consulting room, his hospital work, his books, his whole career, have been a blessing to the world. The Kingdom of Modern Medicine mourn the death of its King.

OSLER GIFT TO McGILL

The immensely valuable library of the late Sir William Osler, Bart., has, it is said, been given to his alma mater, McGill, by the terms of the famous physician's will. Bibliography, or the study and collecting of books, was the late Sir William's hobby, and in its pursuit he amassed a library which included practically everything useful in modern medicine and many rare and curious old works on the healing art, printed in bygone centuries.

Publisher's Department

NO LONGER A GERMAN FIRM

It will interest the medical profession in Canada to learn that the Bayer Co., of Canada, whose offices are at Windsor, Ont., has no German connection whatsoever. Quite recently the Alien Property Custodian at Washington, D.C., wrote to the Bayer Co., Inc., as follows:

GENTLEMEN:

It gives me pleasure to testify to your being one hundred per cent. American in management, control and ownership. When the present owners of your stock became the best bidders therefor at the sale made by the Alien Property Custodian, thorough examination was made to assure the Alien Property Custodian that there be no taint of German ownership—direct or contingent—and no trace of German influence—near or remote—in the company. There was no suspicion that there was any German taint, but the test and examination was just as thorough as if there had been, and you met that test and examination promptly, fully and completely.

With this information, Canadian physicians need have no hesitancy whatever in prescribing Bayer goods and we take pleasure in calling the attention of our readers to the announcement of this firm, appearing on page 7 of this and subsequent issues.

DOCTOR, PURCHASE CANADA PERMANENT DEBENTURES

ONE reason why physicians can make no mistake in purchasing "Canada Permanent" Debentures is that the corporation is absolutely sound, an evidence of which is that the

Dominion Government accepts these securities from insurance companies as part of their Government guarantee deposit, showing the high opinion in which they are held by the State. The Canada Permanent's paid-up capital amounts to $6,000,000. It has a reserve fund of $5,750,000, in addition to which are $150,493.28 of unappropriated profits, making in all nearly twelve million dollars of capital belonging to the shareholders, every dollar of which would have to be lost before any holder of its Debentures could lose a penny. On the other hand, the corporation's funds have been so prudently invested in first mortgages on carefully selected improved properties that, after paying dividends at the rate of ten per cent, per annum on its six million dollars of paid-up capital, for a number of years the large sum of a quarter of a million dollars has been each year added to the reserve fund, thus increasing the protection to the holders of Debentures.

AFTER THE HOLIDAYS

Just why a holiday season should be made an occasion for over-eating is not entirely clear to one who knows the depressing effects of gluttony. However, here we are, after the big annual food debauch, seeking relief from the results of another period of gastronomic indiscretion.

Four-fifths of the physician's present work is in disturbances of the gastro-intestinal tract; at no other time of year is there so much pepsin prescribed and physic purchased.

What is it that has caused all this physical discomfort among the merrymakers? Not what they have eaten, so much as its residue, which has been retained too long in the enteron.

Intestinal stasis, auto-intoxication, etc., are but effects; over-abundance of partially digested, fermenting food material in the bowel, the cause.

Treat the cause, if you know or can discover it, is axiomatically correct as a therapeutic principle, and should be applied prior to treatment of the effect, if success is to be achieved.

What, then, constitutes the simplest, quickest and most effective measure for removing the cause of gastric and abdom-

inal discomfort, arising from over-indulgence in unsuitable food?

Castor Oil.

When castor oil comes in contact with the intestinal mucous membrane, it produces a non-albuminous watery flow (nature's effort to wash away the oil) which, in conjunction with its known action in stimulating peristalsis, literally causes the bowel to wash itself out.

When the best drug for quickly relieving an over-loaded digestive organism is required, use oleum ricini, but, to get the best, write it "*Laxol,*" and order 3 oz. or 6 oz. original sealed bottles, for your patient's protection.

HIGH GRADE ANESTHETICS

Surgeons desiring to procure the highest grade Chloroform or Ether should communicate with Mr. J. A. Macdonald, Dispensary Department, Toronto General Hospital. Mr. Macdonald is Canadian Agent for The Franco-American Chemical Works, Carlstadt, New Jersey, who manufacture anesthetics that have been subjected to the severest tests by experts, resulting in their Chloroform and Ether having been accepted by many of the leading hospitals in the Dominion. Mr. Macdonald is agent also for Antidolorin, a pure Ethyl Chloride, put up in convenient sizes in automatic glass containers for local or general anesthesia.

"SIGNIFICANT FIGURES"

Tobacco is now the greatest source of income of the Inland Revenue Department of the Dominion of Canada.

Recent returns show that in one month the excise tax on tobacco realized for the Government the sum of $2,767,685.

Possibly the loyal Canadian may enjoy his smoke all the more from the reflection that every time he buys a package of cigarettes he is contributing something to the nation's revenue through the tobacco tax. The cigarette is deservedly the purest and most popular form of smoke.

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

Physicians have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information Christian S. Andersen, Esq.

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The Canadian Journal of Medicine and Surgery

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Editorials

GASTRIC ULCER

THE Mayo clinic has had a great influence—far and near—in stimulating group medicine and careful diagnostic and therapeutic work on the part of hospital men and unattached practitioners. The Minneapolis men, we believe, have been particularly stimulated, as is evidenced from reports of the good work they are doing as reported in the *Journal-Lancet,* which represents the medical profession of Minnesota, North and South Dakota, and Montana. In a recent number of this excellent journal (No. 9) appears a number of excellent articles.

Dr. C. B. Wright reports a series of cases of gastric ulcer treated at the Dispensary of the University Hospital, Minneapolis. As a routine they use an antacid-magnesium carbonate or calcined magnesia for the laxative effect, alternated with bismuth subcarbonate where laxative effect is too pronounced.

Sometimes they add 10 grains of soda bicarbonate for the first few days to assist in controlling the pain.

Starvation for the first two days; medicine every hour with all the water desired. Next two days: half a glass of milk and cream—not too cold—every two hours, followed by a powder. On the four following days: glass of milk at 7.30 a.m., a raw or poached egg and junket or gelatine every two hours; medicine one-half to one hour later. This may continue longer if deemed necessary, depending on symptoms. Second to fourth week: Breakfast, 7.30—cereal (cream of wheat, farina, or grits), glass of milk, toast and butter. 10.30 a.m.—a glass of milk, malted milk, cocoa, or buttermilk. Dinner, 1 p.m.—mashed vegetables (potatoes, squash, carrots, and peas); stale bread and butter; cottage cheese; soft-boiled or poached egg; junket or gelatine. 4 p.m.—Same as at 10.30 a.m. Supper same as at dinner. Medicine one-half to one hour after meals. This dietary may also be prolonged, if necessary. Third stage: Eat slowly, cut up food finely, chew thoroughly. Breakfast—cream of wheat, farina, glass of milk or tea, two eggs, toast, zwiebach and butter. Dinner—chicken, fish, baked or mashed potatoes, macaroni, rice, green vegetables (purees), custard, rice or bread pudding, tapioca, gelatine. Supper—cream of wheat, wheatina, farina, two eggs, toast, zwiebach, with butter or cream cheese.

Drink a glass of malted milk or cocoa between meals. Avoid fried, greasy foods, hot breads, pies, cakes, candies, soups, condiments, pickles, tobacco,

alcohol, coffee, too hot or cold drinks, coarse foods and fruits (cabbage, cauliflower, turnips, onions, pineapple, banana, small-seed fruits, and cocoanut).

Advise the patient to stay on this diet for a year, taking antacids on the first indication of sour regurgitation or heartburn.

ANAL HYGIENE

One point in the hygiene of the person has been quite overlooked—that of the anal region. The world has been filled with reports of the dangers from infections of the oral cavity; but the time has arrived to speak of the importance of keeping the distal end of the alimentary canal at least macroscopically clean, if not microscopically. In many rural and sylvan districts use is still made of splinters, chips, leaves, grass, and in certain Scotch coastal regions, the oyster shell still serves as a common scraper to each visitant to the privy. No one needs to be told how imperfectly these devices serve to clean the soiled area; much of the fecal matter must remain adherent to the anal margin and enmeshed in the hairy surroundings.

In more civilized rural and village communities use is made of fragments of newspaper. Among the better-off, toilet paper is used. Neither the printed paper nor the rougher varieties of the toilet are to be commended, because they do not effectually cleanse the parts, and, if roughly used, may excoriate the delicate mucous membrane contiguous to the anal margin. Even the softer pieces of toilet papers, used over and over, do not properly cleanse the region.

Coming to the towns and cities, a few of the more opulent citizens are able to afford the luxury of a sitz bath with a bidet, which enables them to completely clean the parts.

Even water, of course, does not render the nates and outlet surgically clean. But this is perhaps not necessary. Nature through the process of the ages has rendered this portion of the anatomy, so very much exposed to infection, largely immune; though we surmise that many cases of incipient piles are infected through abrasions of the anus due to the rubbing of the drawers (in the case of men) and subsequent infection by the coli and other organisms; likewise, fissures, pruritis, eczema and other local disorders are frequently caused in this way.

Our profession should advise their patients and "keep well" applicants to look well after the cleansing of the anus after each defecation, in so far as possible, by the use of soft toilet paper followed by cleansing with water of moderate temperature. The habit of commanding an evacuation of the bowels on rising or on retiring enables one to cleanse the parts in the bath or basin of water along with the general act of bathing. At other times of the day, if one uses a water toilet, a little water from the hopper or the contiguous lavatory may be applied by the hand or a soft cloth to the parts and dried gently with a little of the toilet paper at hand or towel paper carried in the pocket for such occasion.

Some authorities go so far as to advise the use of a mild antiseptic following the cleansing by water.

ROBERT DWYER

CANADA has lost one of her foremost physicians in the person of R. J. Dwyer. Never strong of physique and under strain from long-continued professional and social engagements, Dr. Dwyer did not reach the Psalmist's allotted span, dying in his sixth decade. Dr. Dwyer suffered from myocardial trouble, secondary to dental infection. A year ago he suffered from an attack of pulmonary edema and came nearly dying.

To us, his old college mates, "Bob" was a unique student. He was not enamored of lectures and books, and did not take an unusual stand at examinations. He was a practical man. He did not imbibe the ephemeral didactic stuff which was so plentifully handed out to the boys in the early nineties, nor did he plough through the big tomes on anatomy, materia medica, therapeutics and medicine, as did some of the students. He did, however, follow the demonstrations of the man who introduced pathology to Toronto—John Caven; and he made a special study of pathology, by postmortem work, as no other man of his time.

On graduation he became first house surgeon and later medical superintendent of St. Michael's Hospital, where he ardently continued his postmortem studies and also perfected his acquaintance with disease at the bedside—becoming one of the best clinical physicians in America. Dwyer then went to London and the continent and in due course obtained his M.R.C.P.—a degree which few Canadians hold.

The deceased was a great teacher as hundreds of his students can testify, not only by reason of his gift of imparting knowledge, but for his ability to communicate his penetrative diagnostic acumen.

Dr. Dwyer was respected, admired and loved by his associates—doctors, nurses, sisters, and other members of the hospital personnel; and likewise by his patients rich and poor alike. They trusted him and believed in him implicitly. In illustration—the deceased once requested one of the orderlies, an aged Hibernian, to go up to a ward and help to remove to the morgue the remains of a patient who had died. "All right, sorr," replied Brady (for that was his name). Brady was " three sheets in the wind " and made his way to the wrong bed. At Brady's touch. what he took to be the corpse raised upon his elbow and remonstrated at the interference, whereupon the faithful, inebriated Brady exclaimed: " Lie down; your dead; your dead; for Dochtor Dhwyer says your dead."

Dr. Dwyer was a naturalist, and well versed in history and philosophy; and his friends will recall many a delightful hour spent with him, as he talked on these and other congenial topics, interspersing all with his brilliant wit and humor.

Our professional brother, like the great Pasteur, was a devout Catholic; and the beautiful full choral requiem mass was rendered in St. Peter's Church in the presence of a large congregation of sorrowful friends.

Rev. Father Minehan delivered a short, appreciative eulogy, which found a responsive echo in the hearts and minds of all present.

J. N. E. B.

OUR "OSLER" NUMBER

It has been a source of very great pleasure to us to receive so large a number of the most complimentary letters from all over Canada regarding the tribute we paid to the memory of the late Sir William Osler in our "Osler" (March) Number. It was, indeed, a tribute more than deserved by one "who (as one of our subscribers wrote) has contributed more to the real and fundamental interests of the medical profession, perhaps, than any other practitioner of the art in our time."

AFTER YOU, ALPHONSE

THE extreme of professional courtesy apparently exists among the Brazil fraternity, according to a recent visitor who had the opportunity of observing medical ethics there. A patient was about to undergo an operation, the anesthesia having been induced. The operating surgeon turns to the attending doctors and says in Portuguese, "Will you take it?" "Will you take it?" They, of course, bow profoundly and say, "It is in good hands." The surgeon has not the slightest intention of allowing any of the doctors present to perform the operation; but he goes through the formality each time.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., **must be** in our hands by the first of the month previous to publication.

Reprints, including halftones, etc., supplied authors at Net Cost.

Original Contributions

THE CAUSATION OF HEADACHE

By Robert Dawson Rudolf, C.B.E., M.D. (Edin.), F.R.C.P.
Professor of Therapeutics in the University of Toronto.

Headache is one of the commonest of human ailments, and if animals could only speak probably they also would tell us of how they so suffered. Certainly dogs appear to do so, and even bears are said to have sore heads!

But headache is only a symptom, a subjective phenomenon, and hence we are very largely dependent upon the patient's statement of how bad it really is. In severe cases the physician may be able to judge somewhat of the degree of suffering by such signs as a raised blood pressure, etc., and in chronic cases the effects of the pain may be shown in the loss of general good health, but as a rule we must largely rely upon the patient himself as to the degree of disability.

Now, in order to have pain, there must be two factors at work:—

(1) A consciousness of pain afferent impulses, and (2) the afferent impulses themselves.

The first factor varies enormously. The appreciation of pain is largely an individual matter, and what will completely incapacitate one person will scarcely disturb another. At one end of the scale we have people who have a complete absence of pain sensation, even where no organic cause for this exists. Such a case I published about two years ago (*Lancet*, Nov. 1918) in the person of a soldier who apparently had no sensation of any kind. His arms showed numerous scars where his friends had burned him with cigarette ends in order to test the truth of his statements. Such a case was undoubtedly hysterical. At the other end of the scale are those persons who cannot bear the least

operation, such as a hypodermic injection, without suffering acutely. Cabot points out that these people usually have over-active knee jerks, and I think that this is the case, and that the activity of the patellar reflex and the sensitiveness to afferent pain impulses go hand in hand.

Natives of Eastern countries seem far down in the scale of sensitiveness to pain. I remember once in India a native coming to me with a swollen face, due to a large gumboil. He begged me to remove the offending tooth, but I found on examination that I could not get at it on account of the swelling, and told him so. He salaamed and said, "If I can open my mouth, will your honor remove the tooth?" I said that I would try. He then took hold of his lower jaw with both hands and forced it open without giving forth any sound, nor did he shrink when I succeeded in drawing the tooth. Such a man would scarcely feel a headache that might make a sensitive woman almost insane with pain.

It is evident, then, that the appreciation of painful sensations varies very greatly, and in judging of the significance of headache as a symptom of disease we must remember that a very little complaint of this in one individual may mean more than a very great complaint in another. In a given case of headache it often tests the physician's skill to the utmost to say how much of the suffering is due to which of the two factors of sensitiveness and amount of afferent stimuli. Predominance of either factor will be interpreted by the sufferer as pain, and may cause an equal amount of distress. If we apply an irritant, such as iodine, to an area of normal skin and again to a raw surface, such as a bedsore, then in the first instance there will be no pain, while in the second there may be a great deal. Some people's pain centres resemble the normal skin and others the raw surface, so that the same amount of irritation will produce very different results.

The exact seat of the pain in headache is largely a matter of conjecture. It is certain that the brain substance is quite insensitive, as is also the bony brain case, but the meninges are freely supplied with sensory nerves, as are probably also the blood vessels, and as both the membranes and the blood vessels dip deeply into the brain it is easy to see how various

deep brain diseases may give rise to pain. One theory of headache is that it is due to increase in the pressure of the cerebro-spinal fluid. This is probably at least often the case, and of course any of the nerves within the cranial cavity may thus be stretched or pressed upon.

In the same way, although the bony skull box is insensitive, it is covered by membrane which is freely supplied with sensory nerves, and so a bone lesion may cause pain and headache.

The pain centre for all the cephalic structures lies in the inferior end of the posterior central convolution, and hence headache is really appreciated here. The chief afferent nerve for the membranes of the brain and the calvarium is the trigeminal. The blood vessels of the brain are served by sympathetic nerves, and irritation of these may be the cause of pain.

Headaches may be classified in various ways, but probably the most useful classification is one founded upon the likely etiology of the different kinds. Such a method of grouping is most useful when one comes to the consideration of treatment.

The following is the classification that I have found convenient; and although many faults may be found with it, and in many cases it is difficult to know just where to place a given case, still it may be of use in furthering the discussion of our subject.

Classification of the Causes of Headache:

A. Organic—(1) Intracranial disease, such as tumors, abscess, meningitis.
(2) Cranial, pericranial and diseases of the structures superficial to these.

B. Functional—(1) Reflex or referred: (*a*) Nose; (*b*) Eye; (*c*) Ear; (*d*) Teeth; (*e*) Digestive tract and other distant organs.
(2) Toxemia: (*a*) autogenetic; (*b*) heterogenetic.
(3) Hyperemia: (*a*) active; (*b*) passive.
(4) Anemia: (*a*) general, or (*b*) local.
(5) Nervous: Neurasthenia or hysteria.
(6) Migraine.

The first broad division is into headaches due to some organic lesion and headaches in which no such gross change exists. The organic cases are divided into those in which disease is within the skull, such as brain tumor, meningitis, etc., and those in which it is in the bone, or superficial to this. In the latter class are the so-called "indurative headaches" of Edinger. According to this writer this is the commonest form of headache among the Germans. It certainly is not so in this country, but it undoubtedly exists. It consists of headache connected with localised inflammatory deposits in the superficial structures of the scalp and at the insertion of the muscles into the head. The condition appears to be a fibrositis, similar to what exists in the lumbar region in lumbago, and is probably due to the same cause, i.e. "rheumatism," if one dare use the term nowadays!

Intracranial disease will usually show itself by the existence of some signs, such as paralysis, rigidity of the neck muscles, alteration in the reflexes, Kernig's sign, variations in the composition and pressure of the cerebro-spinal fluid, optic neuritis, etc. When the disease is situated in the bone, or superficial to it, the symptoms and signs are likely to be local and there is usually localised tenderness and perhaps some alteration in the contour of the affected part. If, later, a pathological condition, which at first commenced in the bone, involves the intracranial structures, then signs of this involvement may appear, and then the case belongs to both of the subdivisions of organic headache.

It may be well, before saying anything about functional headaches, to emphasise the fact that organic disease may for a time be completely masked by functional symptoms. Such a case as the following is an example of this:

Case 1. Mrs. T., aged 55. *Complaint.* Headache and throbbing of the head. *Duration.* A few hours. *History.* Very hysterical record. Had frequently had attacks when she would, during some family disagreement, fall in apparent unconsciousness, with spasms, and then would belch a lot of wind and recover. Two years before had a turn of some sort, during which she was aphasic and then paraphasic, without any

paralysis, from which she soon recovered. Lately had been attending a throat and nose specialist for some ear trouble, and he telephoned that there was nothing in the ear condition that would give rise to any cerebral trouble. Temperature 101°. Pulse 90. Respiration 24. No vomiting. When seen the next day she was lying apparently unconscious, with the arm under the head. She would not answer when spoken to, but would occasionally open her eyes when addressed. Although she had seemed to be unconscious during the night, yet she had twice got up and gone to the closet.

The following day she was found to be cataleptic, and the arms could be moulded into any position, and would only slowly return to a position of rest.

The case appeared to be one of hysteria, and her daughters, who had seen her in many similar attacks, were confident that "she was shamming." The following day, however, she showed signs of undoubted organic disease. The neck was rigid, Kernig's sign appeared, and there was some squint. Examination of the fundi showed much dilatation of the veins and some haziness of the discs. The patient died very shortly afterwards.

In this case the catalepsy and early symptoms were undoubtedly hysterical, and for a time masked the signs of organic disease. No *post mortem* examination was permitted, but the condition was probably one of cerebral abscess.

The throat and nose specialists present will no doubt bring out the frequency of headaches dependent upon disease of the nose and its contributory cavities. Most of us have seen headaches, of to us obscure origin, which have at last been relieved by the free discharge of pent-up pus from the nose.

In the same way, trouble in the eyes may cause headache. There may be some organic disease present, such as glaucoma, or, very often, some error of refraction or accommodation. It is well to remember that it is the slight errors that are most often the offenders here.

It has long been recognised that tooth conditions can cause headache as well as local pain. Lauder Brunton taught that we should always think of the teeth when a child complained of chronic headache. Caries or impaction of the teeth were

blamed, but lately the X-ray has revealed the frequency of quiescent *foci* of infection at the roots of the teeth, and these may be the cause of headache, either by producing referred pain or else by causing toxemia. All the same, I am inclined to think that this source of trouble is being a little over-emphasized at the present time. Investigation shows that very few people over the age of fifty are free from such trouble, and surely this must in most cases be practically harmless, or nearly all of us beyond that age, and most of us beyond the Oslerian age of forty, would be invalids.

Disturbances of the stomach and intestines are undoubtedly one of the commonest sources of headache. Such should probably be classed as a rule as toxemic, although some of them, especially those of the stomach and liver are believed, by such authorities as Henry Head, to be reflex. This class is as a rule very amenable to treatment.

Reflex headaches from disease of the reproductive organs are supposed to occur; but probably the headaches that one sees in delicate women with uterine trouble are really part of their general neurasthenia, and are only one of the many distressing symptoms that they suffer from. Matthews Duncan used to say that uterine disease never caused pain above the level of the breasts.

In considering how irritation in a peripheral area, such as from the teeth, can cause headache, we must remember that the sensory centre for the area of the fifth nerve is contiguous to that of cephalic sensibility which lies in the lower end of the posterior central convolution, and that, as James Mackenzie and Henry Head have pointed out, commotion in one centre is apt to spread to the neighboring ones. Headaches connected with disease of the thoracico-abdominal organs are explained by Head as being due to the close relation that exists between the centres of the vagus and the fifth nerves.

Toxemic headaches are common. The poison may be introduced into the system from without as in the case of alcoholism or lead poisoning, or may be autogenetic as in gout, uremia and in many alimentary disorders. Most fevers are accompanied by headache, and this is probably usually toxemic,

although there is always the possibility of actual infection of the intracranial structures.

One may theorise that in toxemic headaches the poisons may act (1) by increasing the sensibility of the pain centres, (2) by irritating the peripheral nerves, or (3) by producing vascular disturbances in the brain or membranes.

Headaches are often seen in full-blooded individuals with high blood pressure and general congestive tendencies. These cases are probably largely toxemic, but are also congestive. If the symptoms are severe and long-continued a venesection may give more relief than any drug therapy, and nature sometimes gives ease by a nose bleed. Headaches occurring at the menstrual periods are probably of this congestive type, and a case like the following seems to support this view:—

Case 2. Female, aged 46. During all her menstrual life had suffered from severe headaches with each monthly period. During the headaches she would be almost aphasic and would often vomit. When first seen by me there had been no menstruation for over six months, but regularly every month the headaches would occur as before. The patient seemed much "run down" and was sent into a rest home. While there she got one of her headaches, and for the first time became unconscious, with a much raised blood pressure and other signs of some cerebral disease. The immediate prognosis at the time looked very bad, but the condition cleared up, and for a month the patient was fairly well. Then she had a similar attack. This time the condition did not clear up so completely, and before long undoubted signs of organic brain disease appeared. She had five of these attacks of cerebral compression, and at last died in one. The *post mortem* examination revealed three endotheliomatous tumors, growing from the membranes. Evidently in this case the headaches at the menstrual periods were congestive, and then, when the tumors developed, the periodic congestion specially affected these and caused the urgent and at last fatal compression.

Anemia is sometimes complicated with headache, although I agree with Cabot that this is not common. But many of the worst headaches are probably (according to Pal) due to cerebral anemia from local spasm of the vessels.

In neurasthenia we find headache nearly always present. It is often occipital and tends to be much accentuated by any nervous disturbance. The question here is whether or no the patient is not suffering from an increased sensitiveness of the pain centres, so that afferent impulses which usually are unnoticed do not now come within the range of consciousness and are interpreted as pain. The same class of people very constantly feel pains in the epigastrium and elsewhere.

In hysteria we often see a peculiar form of localised headache, where the patient complains of a stabbing sensation, often accompanied by great tenderness at the same spot. This is usually at the vertex.

Nervous people have various sensations about the head besides pain, such as a feeling of bursting, of tightness, of formication and so on, and these are probably all due to the enlarging of the field of consciousness and must be treated by general rather than by local means.

Migraine is a very special form of headache, which often occurs in keen strong people with a nervous temperament, and which frequently runs in families. The three stages of visual disturbance, headache, and finally sickness and often vomiting are characteristic, but occasionally one sees one or two of the stages missing, and then the diagnosis is not so clear. Some cases of paroxysmal vomiting are probably examples of the third stage occurring alone.

It is not my province here to discuss the treatment of headache, but when one thinks of the many totally different causes that the pain may depend on, it is evident how important it is for the physician to go thoroughly into the etiology before attempting to treat a case. Often some underlying cause may be unearthed which is removable, and thus the headache may be specifically treated. Frequently several causes are at work, and yet if we succeed in removing even one of them the pain will be relieved. This is seen when a neurasthenic is relieved of headache by the correction of an error in refraction.

As I said at the commencement of this brief outline of the subject, headache is only a symptom.

Read before the Medical Section of the Academy of Medicine, Toronto, 9th December, 1919.

THE INFLUENCE OF THE WAR ON SURGICAL TREATMENT*

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When your Society did me the honor of inviting me to address you, I endeavored to choose a subject that would be of interest to all members. We have just passed through four years of terrible anxiety, years the most tragic and historic of all centuries. During this period whether we have been engaged in the gory hell in Flanders, or the rush of a never-ending drive at home, we have had little time to concentrate our thoughts on the many changes that have evolved from this mammoth vivisection laboratory, in which the choicest young men of the civilized world were the subjects of these operations. The war is now over, and I think it behoves us to study carefully its lessons, and adopt those which have helped to make surgery a science, as well as an art merciful and kind.

In the few minutes at my disposal this evening, I will endeavor to make a rapid survey of a few of the changes that have taken place in our knowledge of the treatment of surgical conditions, especially those arising directly or indirectly from the war. We will find that long used antiseptics, that were thoroughly tested and thought efficient, failed us. Our fear of active treatment to the pleural cavity has vanished, and the resistance of such tissues as the synovial membrane has surprised us. Many lessons have been learned in the use of serums, both prophylactic and curative, and we know that an autogeneous bone graft will form a strong useful link between two separated bones, while a nerve graft uniting the separated ends of a nerve is useless as far as ever expecting any functional return.

Let us first consider the changes that have taken place in the use of antiseptics. Observation has shown that practically

* Read before the Peterborough Medical Society, September 18th, 1919.

all the wounds received in this war were infected. The antiseptics so efficient in civil surgery did not prove effectual in war surgery. Of the new antiseptics Carrel, with the aid of Dakin, brought out the sodium hypochlorite solution, which is commonly called Dakin's solution. This antiseptic instead of being called new, should be labelled as an old antiseptic, brought to life again, because we find that a French chemist named Labarraque, embalmed the body of Louis XVIII, in a hypochlorite solution. That Dakin's solution has the power to kill micro-organisms in the depths of wounds is true, but I think that the excellent results published by three of the greatest advocates of the solution, namely Carrel, DePage and Chutro, were due to the careful technique, to a much greater degree than to the solution. I would say 85 per cent. of their success was due to the technique and 15 per cent. to the mixture. These men personally tested the solution, personally did their dressings, and personally supervised all the Carrel-Dakin treatment. With solution made fresh daily, and a careful verification as to its percentage of hypochlorite, which must never be over .50 per cent. or under .45 per cent. and absolutely neutral in reaction, and the careful Carrel technique carried out in every detail, most excellent results can be obtained. To prove this permit me to quote you one series reported by DePage. Between June, 1916, and November, 1917, he carried out the Carrel-Dakin treatment on 845 wounds of the soft tissues, and when they had arrived at a period of sterilization, which he proved by bacteriological examinations, he performed a secondary suture with the following result:

724	complete successes	85.6 per cent.
70	partial successes	8 per cent.
51	failures	6.4 per cent.

Dakin, realizing the disadvantage of the hypochlorite solution, in that it was unstable and its germicidal power was quickly exhausted, continued his investigations and more recently has brought out a preparation he called Dichloramine-T. This substance is an aromatic chloramine powder containing about 29.5 per cent. of chlorine, and for use is dissolved in a chlorinated paraffin wax. By using the paraffin wax as a base,

the germicidal action of the chlorine is spread over 18 to 24 hours, making it unnecessary to renew the solution or to dress the wounds more frequently than once in every 24 hours. A study has been made in over 6,000 cases, and the following conclusions arrived at:

1. The strength for surgical work should be 5 per cent.
2. Wounds to be thoroughly dried before applying Dichloramine-T, as it forms hydrochloric acid in the presence of water.
3. The thinnest possible gauze dressings to be used. Thick dressings cause irritation.
4. Has no disintegrating effect upon catgut.
5. Causes a rapid sterilization of wound.

In military surgery, it is our aim to restore to the greatest possible degree of usefulness the injured part of the body. As I have previously stated, practically all our war injuries are septic, require most radical treatment, and run a protracted convalescence. The long nervous and physical strain our men have undergone, has an important bearing on their resistance and the rapidity of their recovery. Bearing this in mind, we have planned our military hospitals both in England and in this country, so that local amusements are at hand to take the man "out of himself" as it were, and overcome his mental attitude. For this purpose, well furnished recreation rooms are opened, and outdoor sports for those who can take part in them are encouraged. Our treatment departments as well as aiding in the restoration of function, have a wonderful mental influence; and a well equipped gymnasium, with physical instructors, is beneficial to both mind and body.

The scientific mutilation that was carried out in France was conducive to a large number of injured bones. As it was rarely possible to treat these as aseptic injuries in which primary union would take place, it is perfectly obvious that a condition of chronic osteomyelitis would result.

To insure success a most thorough examination of the sinus must be carried out by skiagrams, and with a blunt probe, being sure that every crevice and cavity is located. If this cannot be done satisfactorily with a probe, bismuth paste

melted to a liquid should be injected, and an X-ray taken. In vestigation will show some or all of the following: the presence of definite sequestra, and a cavity whose walls are composed of bone or dense scar tissue, or the presence of some form of foreign body.

In performing a radical operation, a careful preparation is made by a thorough use of soap and water. We do not use the iodine in these cases. A tourniquet is applied, the sinus excised, and the bone both above and below the cavity exposed, an incision 10 to 12 inches long being made if necessary. The tissue and periosteum are stripped, and every track is explored. With this good exposure, the wall of bone must be gently chiselled away from above, downwards, and all diseased bone removed, and all tunnels eliminated, until the whole exposed surface of bone shows a gently sloping wall, composed of healthy even bone. No track or depression lined with granulations must be left, and it must be aimed to leave the cavity as flat as possible.

In this procedure we have aimed at the thorough removal of all sequestra, open up all tracks, remove all granulation tissue and leave as even a surface of bone as possible, so that it can be filled by the falling in of the soft parts. Never leave a cavity with rigid walls of bone, that cannot be filled with soft tissue. If it is found that the soft tissues do not easily fall in and fill up the cavity, a flap of muscle, the size of the cavity may be cut and if possible bring with this flap a layer of periosteum, which will have a beneficial osteogenetic action. The muscle flap is fixed in the cavity by a fine catgut suture. A small drainage tube is now inserted, and the wound closed by sutures which will evert the skin margin.

The treatment of wounds of the chest, and the resulting chronic empyema has also passed through several stages. We know when the thorax is opened the air rushes into the pleural cavity, and the lung contracts upon itself. This lung remains contracted in a state of collapse, and as a result of the inflammatory reaction of the pleura, a fibrinous layer is formed which encloses the lung and makes it impossible for the lung to undergo physiological expansion. To overcome this, the operations of Estlander, Shede, and Delorme have been advised, with

the idea of allowing the chest wall to fall in, and obliterate the cavity.

The method described by Lilienthal, in which he aims at allowing the lung to expand and meet the chest wall, and thus obliterating the cavity, is the best. In carrying out the technique of this operation, an intrapharyngeal anesthesia is preferred, and plans are made so that an intra-pharyngeal differential pressure may be supplied when called for. A long incision is made over the cavity, cutting at right angles through the ribs, care being taken not to injure any adherent lung. The cavity is now widely opened by a powerful rib retractor. Intercostal vessels which are cut, should be caught and tied. A good exposure having been made, the cavity is wiped clean and an incision is made into the fibrinous layer, the whole length of the cavity. A line of cleavage is found between the membrane and the pulmonary tissue, and by blunt dissection and the fingers, the membrane is removed. The anesthetist now insufflates the lung, either with air or ether vapor. With this inflation the lung is seen to expand, and close the cavity. The old sinus track is freely excised, and a good-sized drainage tube inserted, extending only a short distance into the thorax. The wound is closed in three layers. In this type of case, we have had good results with a careful Carrel Dakin technique in the after treatment, the hypochlorite solution dissolving any of fibrinous membrane that attempts to re-form.

In the after-treatment, there are two points that I do not think have been sufficiently appreciated. The first is diet, and the second is continued lung expansion. For the proper maintenance of nutrition, an abundance of light, nourishing diet, of which milk and eggs form an important part, should be given. In empyema convalescence, 3000-3300 calories are needed daily to maintain equilibrium. The other treatment of importance is an early intensive deep breathing and blowing exercises. The Wolff bottles have not proven very successful with us, and we find that an old inner tube of an automobile gives the best exercise. By taking out the valve, and fitting on a few feet of rubber tubing, the patient may lie in bed and blow hard and long to his heart's content.

The treatment of delayed union, and non-union of fractures

is important. In fractures resulting from war injuries, we have found this condition to be more frequent than in simple fractures. The great amount of bone lost through following necrosis, and the debilitated condition of the patient, no doubt explains its frequency. After treating a number of these cases, we have found only radical treatment will give anything like satisfactory results. Before operating, the wound must be absolutely dry and healed for at least six months. During this six months, a course of massage and galvanism, and gymnasium exercises are carried out. This not only keeps the limb from atrophying, but the patient's general condition is improved. During this period, the patient has been using a Caliper splint for walking around.

The wound having been healed for six months, and operation decided on, the patient is sent to the massage department, with a request that a vigorous massage be carried out in the region of the old wound, so that if there is a hidden focus of sepsis present, it will show by an inflammatory reaction.

Briefly, our treatment is to cut down at the seat of fracture, being careful to carry out the most painstaking aseptic technique, refresh the ends of the bone and fix them by means of a bone graft. Points of importance for a successful result are, the graft must be strong, and if possible, at least 1½ inches should be imbedded in the host; the graft must be on healthy medulla, and must be firmly fixed in close apposition to the host bone.

To successfully carry out the treatment of peripheral nerve injuries, it is necessary to be able to diagnose as accurately as possible, the pathological condition of the nerve at the site of the injury.

The initial injury may be (1) Concussion, in which no nerve fibres are divided but there is a temporary loss of conduction. In this type of injury good recovery usually occurs in three to four months, unless surrounding scar tissue causes a compression. (2) Partial division, in which a number of nerve fibres are divided. In this series, the amount of recovery will depend on the number of fibres divided, and the amount of scar tissue at the seat of injury. (3) Complete anatomical division in which suture of the ends is the only treatment. To insure success, a careful examination, and a course of pre-operative

treatment must be carried out. We have found the following scheme of examination useful.

1. History—In which notes are made as to the condition at the time of injury. Treatment previously given and the amount of recovery or relapse noted.

2. Mobility—Test the range of passive movement of all the joints in the region of the disability.

3. Motor—The range and power of voluntary contraction of all muscles of the affected limb must be examined.

4. Sensory—Careful tests for sensory changes are made and mapped.

5. Trophic—In which any abnormal vasomotor state is noted, with the particular reference as to the appearance of the skin supplied by the affected nerve.

When operation is found necessary in nerve lesions, a period of three months is allowed between the date of healing, providing the wound has been a septic one at the time of operation. In clean gun shot wounds, it is safe to operate within two weeks of time the wound was healed. Providing it is necessary to wait three months before operating, an intensive and definite course of treatment is carried out, consisting of a daily routine of massage, electrical and hydrotherapeutic measures, and the wearing of the necessary appliance to relax and rest the paralyzed muscles.

At the time of operation, the nerve must be handled with the greatest gentleness. Let every touch be a caress. When freshening the divided nerve ends, care must be taken that further damage is not done to the nerve fibres. We have found a safety razor blade to give a clean, neat surface. The ends being freshened and the nerve bundles plainly seen, coaptation of the two ends, with the least amount of distortion is performed. Two to three weeks after operation, daily massage and galvanism are resumed.

Gas gangrene, a surgical condition, rarely seen in civil practice, became to be much dreaded early in the war, on account of its acute rapid onset, and its high mortality.

Kenneth Taylor, pathologist to the American Ambulance

Hospital, in Paris, defines gas gangrene as the death of an extensive mass of muscle, due to the mechanical action of gas, produced from a local focus, by saprophytic bacteria. Muscle, he believes, is the tissue chiefly involved, because the substances from which the gas is formed, are chiefly the carbohydrate containing tissues. The organism is, with rare exceptions, the B. Aerogenes Capsulatus Welchii. (B. Perfringens).

The first stage in gas gangrene may be dormant, but the bacteria are to be found in the dead muscle, and gas is sometimes evident in the depths of the wound. In the next stage, that of gaseous distension, is marked by a gaseous infiltration of healthy tissue. Retention of the gas causes sustained pressure. The rapid increase of the intramuscular pressure may quickly deprive the tissues of blood, until they appear to be wrung dry of fluids. At this point, the condition of gangrene supervenes.

In treatment early operation is important. All the muscle in the infected area is resected, extending until muscle is reached with normal color and good blood supply. The wound is left widely open, and a Carrel Dakin technique is carried out. Along with the operative treatment, we have been using vaccines. In July, 1917, Ball and Pritchett, of the Rockefeller Institute, published in the Journal of Experimental Medicine, their results, after experimentations with five cultures of B. Aerogenes Capsulatus. These experiments, which were performed on pigeons and rabbits, produced an active immunity.

During the war we have made an important advance in the treatment of burns, by the employment of paraffin wax. Barthe de Sandfordt was the first to draw the attention of the profession to the use of paraffin in the treatment of burns. His mixture was first placed on the market six years ago, under the trade name of Ambrine. The mixture did not become popular for two reasons (1) The formula was secret. (2) The preparation was patented.

The application of paraffin wax in burns has been extensively tested, and the results, which are excellent, published. To replace the proprietory Ambrine several very excellent substitutes have been brought out. One of the best formulas is that of Colonel Hull, R.A.M.C. Colonel Hull has added to his

neutral paraffin wax and resin, some oil of eucalyptus and Beta Naphthol, which appears to hasten repair, and reduces the objectionable odor, to some extent.

Most of the drug houses are now putting up reliable paraffin wax preparations. To be efficacious, the wax must be neutral, with sufficient elasticity and give to it, so as not to crack when applied.

All burns of the second and third degrees, and also surface wounds may be successfully treated by paraffin wax. The action of the wax is mechanical, and acts (1) By excluding all air. (2) By forming a protective dressing and allowing healing to take place under the best physiological conditions. (3) By keeping the healing surface at a uniform temperature. (4) The wax acts as a splint to the surface, keeping at rest the injured tissues, and acts as a protection to the newly growing epithelium.

This dressing rarely gives any pain. If the dressing should cause pain the first few days, it can be prevented by applying a layer of liquid petrolatum instead of the first film of wax, follow this by a layer of absorbent and cover by a film of wax. This dressing should only be necessary for a day or two and only in exceptional cases.

The paraffin application is changed every 24 hours for the first two or three weeks. The wax shell is easily removed without pain, because during the 24 hours a large amount of lymph has collected under the shell, which gently lifts it from the surface of the wound. There may be considerable odor, due to the purulent secretion and sloughing tissue, but this is not a contra-indication to its use. The surface is gently cleansed with a mild antiseptic solution, care being taken not to disturb the growing epithelium, the wound dried and the dressing re-applied.

In our hands paraffin wax has given most excellent results. The treatment has been inexpensive and painless. The burns have healed more readily, and the scars are soft and pliable, and less contraction follows.

There is one more procedure in surgical treatment, that has stood the test, and has proven of great therapeutic value. I refer to the transfusion of blood. The surgeons who have had any practical experience in this treatment at the front are loud in its

praises. It is of great value when given for acute secondary anemia following severe hemorrhage. Many operations have been possible, and many lives saved in France, as a result of the improvement following a blood transfusion.

In civil surgery its value is rapidly becoming more appreciated. For hemorrhages in new-born babies, transfusion is specific, and the use of the longitudinal sinus is one of the most valuable advances. Recently, Hunt, of the Mayo Clinic, published the results of 726 transfusions performed for the following conditions:

(1) To replace lost blood in acute hemorrhage.

(2) For pernicious anemia.

(3) To add a thromboplastic substance in cases with prolonged coagulation time.

In shock, blood transfusion has given the most gratifying results, excelling any previous form of treatment.

To prevent reactions, care must be taken in selecting a donor whose blood will not show any incompatibility with the recipients. If careful tests are carried out, there need be no fear of hemolysis occurring. The technique and various methods of performing transfusion are so well known, that I will make no further mention than to state, in our hands the citrate method has proven the simplest and most efficient. Regarding the dosage, in infants 80 to 150 CC. and in adults, from 800 to 1000 CC. is given.

There are many other advances in the science of surgery that have shown their worth during the war that I have not touched upon. I have simply endeavored to recall to your memory some of the methods that have proven most efficacious and may be put into practical use by us all.

Society Proceedings

ACADEMY OF MEDICINE, TORONTO

The sections on Surgery and Pathology met on January 20th. Dr. Chas. Hair read a paper on infections of the genito-urinary tract—kidney, ureter, bladder, prostate, seminal vesicals, etc. The causative micro-organisms were the colon and tubercule bacilli, the staphylococcus, the streptococcus and the gonococcus.

Predisposing causes included those which lowered the general vitality—cold, mental and bodily exercises, disease of the large bowel, infective foci in other parts of the body. Methods of infection were spoken of as ascending or descending, or through the blood—urogenous and hematogenous. The upper tract might be infected through the lumen of the ureter or through the lymphatics of the ureter. In back pressure conditions infection can travel up the ureter. Bladder stasis should be looked for. To-day much prominence is given to hematogenous infections of the kidney. The renal system is quite susceptible to infections from other parts of the system. The kidney filters becteria in health. Retention of bacterial products causes trouble. The cortical area of the kidney is most likely to suffer first from such infections, especially from the cocci. Urinary stasis favors infection in any part of the system. Conditions met with were pyelitis, pyelo-nephritis, pyonephrosis, cystitis, prostatitis, urethritis, seminal vesiculitis, epididymitis, with arthritis, neuritis, myocarditis. No other system of the body possessed so many obscure areas for foci. Then there were calcareous deposits—mostly found in residual conditions.

The most common causal organism was the colon bacilli—especially in affections of the upper tract. In urethritis the gonococcus was the most common organism in conjunction secondarily with other organisms. In the upper tract colon in-

fections were often bilateral. Sub-acute conditions often followed to acute. Pyelitis seldom existed without some pyelonephritis. Such infections may produce symptoms like ordinary influenza.

Tubercle was usually primary in the kidney, but might be secondary to some other infection. Infection may travel along the ureter to the bladder and re-ascend to other kidney by lymphatic extension. Early symptoms were referred to the bladder—nocturnal frequency was suspicious. An early diagnosis means more in urinary infections than in pulmonary. Radical measures were often necessary. Occasionally a kidney may be badly disintegrated and yet symptoms may not be marked. The success of radical measures depends on the function of the other kidney.

Next in frequency to colon bacilli infections come staphylococci—often associated with the colon in the lower tract. Upper tract infections from this organism were often unilateral and usually hematogenous, secondary to other pyogenic foci in other parts of the body—such as the teeth, tonsils, bowel, gall bladder, duodenum. The symptoms were often not marked. If acute there may be a profound toxemia. Hematuria may occur with no accompanying symptoms. Symptoms will usually disappear on removal of the localized foci. W. J. Mayo holds that these cortical infections are true nephritides, and are often confused with Bright's disease. The surgeon of to-day is greatly interested in nephritis.

The streptococcic infections alone, or associated with others, are the most virulent forms. In the kidney they may be of the fulminant type. In the bladder they may cause an internal cystitis.

As to infections of the urethra and admeiæ, we clear them up, or we do not clear them up. Many of these patients once infected are always infected, whether male or female. The gonococcus is responsible for many infective conditions. It blazes the trail for other infections—the staphylococcus, the streptococcus and the colon. These latter may continue to live long after the gonococcus is dead—at least buried. This order of infection may be latent for years and not set up any symp-

toms. It may account for many diseases of the rheumatic type. These foci of infection may cause the same category of disorders as those of the teeth and of the tonsils, and should always be kept in mind. Many people lose their teeth and tonsils and have these foci in the genito-urinary system, which will keep up the trouble.

Venereal diseases will be better treated in future, not only by better methods, but practitioners will have a more intelligent knowledge of the consequences. We are not in a position to promise cures. We must try to prevent these infections—morally, legally and medicinally. We owe it to the public and future generations. The speaker said the more he saw of urinary infections, the more he realized their seriousness. The functions of the kidney were very important. Repeated infections always leave some trace. These infections are hard to clear up and many tend to chronicity and recurrences unless causes are removed. Many of these are accidents in natural life, but many are contracted by those who do not realize their seriousness, a fact for which the profession must assume responsibility.

Dr. Warner Jones said that many of these infections are difficult to control and to eradicate once the kidney and urinary tract become infected. On the other hand one is surprised at the readiness with which the colon bacillus will respond to medicine. When it does not do so, sometimes lavage of the pelvis of the kidney, or nitrate of silver or some other drug may be of service. If staphylococci and streptococci invade the kidney, causing pyelo-nephritis with pyelitis, then lavage is very disappointing. The speaker said his experience with vaccines was that the colon bacillus infections responded well to treatment by them, with lavage. Secondary infections of the prostate and seminal vesicles with staphylococci and streptococci are more difficult to get rid of than those caused by the gonococcus. Possibly they do not do so much damage; but when deeply seated it is almost impossible to eradicate them, although prolonged course of massage of the vesicles and prostate with instillations of argyrol may give very good results. Some of such cases which fail to respond may require drainage or re-

section of the vesicles. One might try splitting the capsule and draining of the prostate.

In respect to tuberculosis of the kidney, a diagnosis should first be made by ureteral catheterization and the organism found. The proper treatment is to remove the infected kidney if the other one is alright. This disease comes on and makes a progressive destruction. The speaker knew of no instance of cure of tuberculosis of the kidney *per se.*

Dr. Edmund E. King said we must pay more attention to acute forms of these genito-urinary diseases. He would urge more general and more complete massage in infections of the prostate and vesicles. One gets two distinct infections—of the vesicle and of the vesicle and prostate. When infection passes into the deep urethra and into the vesicles and prostate there appear many symptoms which are common to many infections of the lower urinary tract. Probably a great deal of the chronicity is due to bad treatment given in the commencement. Our hope is that in future these infections may be prevented from spreading into the deep urethra, vesicles and prostate. The removal of the vesical was a serious procedure and a cure by such measures sometimes very uncertain. Infection may involve the tract of the incision and delay healing a long time. Dr. King had seen little good results from the administration of vaccines. One could, by massage, stir up a local reaction which would produce an autogenous vaccine which would supply all that was needed.

Dr. John Hunter said one saw a good deal of bladder irritability in old men with enlarged prostates—frequent urination and difficulty of voiding in the morning. He had had good results by administering 1-30th of a grain of strychnine two or three times a week at bedtime, with a pint of hot water. This enables the patient very often to go through the whole night without getting up once to void. The hot water is repeated early in the morning and the bladder not emptied until the morning chores are done, and then emptied with the bowel. He encouraged these aged men to retain their urine as long as possible.

Dr. Frederick Marlow, followed by the report of three cases of rupture of the gall bladder, in which he operated. The first

case was that of a man aged 52, seen in consultation. Twenty-four hours before he had an attack of severe abdominal pain with vomiting. Abdomen slightly distended. The right side was more rigid than the left, the upper quadrant more rigid than the lower. Temperature but slightly elevated; pulse, 98. Sent to hospital. Leucocytes 12 thousand. Urine showed 5 per cent. sugar. Patient passed a fairly comfortable night. There being no change in the morning, palliative treatment was continued during the day. The pulse increased to 116; at 8 p.m. section was done, 48 hours after onset of illness. The intestines were intensely congested. A perforation was found in the lower wall of the gall bladder. A cholecystostomy was done, free draining being provided by rubber tubes. Death took place on the 3rd, due to the diabetic state.

The second patient was 49, who had always been in good health up to the attack which was characterized by abdominal distress in the region of the stomach; the day following there was a slight elevation of temperature and tenderness on the right side. The pain increasing in severity with vomiting, Dr. Marlow was called in and found the patient extremely ill. The pulse, however, was fairly good—85, and the temperature 99 2-5. The abdomen was distended, and the whole right side markedly rigid. On opening up, bile was found in the abdominal cavity and the gall bladder black and gangrenous with many adhesions. A cholecystectomy was performed and the patient made an uninterrupted recovery.

The third case was that of a male, aged 62. The symptoms were rather typical. On opening the abdomen, the gall bladder was discovered to be thickened, dark, friable and gangrenous. In the lower wall close to the cystic duct a stone was imbedded. A cholecystectomy was done, all of the gall bladder being removed except the part adherent to the liver. Patient made a good recovery. The essayist then gave a résumé of the literature of the subject. Dr. George Strathy followed by reporting some fifty odd cases of delayed arsenical poison, following the administration of salvarsan.

The Physician's Library

The Narcotic Drug Problem, by Ernest S. Bishop, M.D., F.A.C.P., Clinical Professor of Medicine, New York Polyclinic Medical School; member Narcotic Committee, Conference of Judges and Justices of New York State. MacMillan Co., Toronto & New York.

A book is read with added interest if the reader knows something of the author. Dr. Bishop became interested in the narcotic problem while resident physician in the alcoholic and narcotic service at Bellevue; his interest was deepened by his experience of visiting physician and President of the Medical Board of the workhouse (New York department of corrections). He also learned something of how not to treat narcotic addicts.

Bishop has concluded from his clinical observation that a drug addict is a sick man—and not vicious and criminal necessarily; that irrational withdrawal of the drug causes well marked syndromal symptoms. In breaking off he recommends a not too rapid withdrawal, emphasizing the importance of lengthening the time between the decreasing-sized doses, in order to allow for the elimination which is sure to go on. He doesn't believe in—or recommend or describe any specific treatment in his book. Every case must be studied by itself and treated according to the especial needs of the patient. In this respect his treatment differs from that given in some of the so-called sanitariums where they horribly purge the poor devils, fill them with belladonna until they are half-crazed and bulldoze the weakened, trembling wretches into abstinence, rob them of their money and kick them out of the mill with the warning that if they ever return they will not be admitted.

Dr. Bishop after discussing addiction disease in many of its phases and certain aspects respecting the handling of it, discusses its relation to surgical and intercurrent disease and laws relating to narcotic drugs. He comments upon the legitimate use of narcotics and devotes a chapter to a general survey of the situation and the need of the hour, closing with some human documents of more than passing interest.

The current number of MacLean's contains an article revealing to what a wide extent drug addiction has spread in Canada, It, therefore behooves every medical man in our Dominion to post himself on the subject. To this end Bishop's book will be found to be of much value, and we take pleasure in commending it to our readers.

The Woman of Forty by Edith B. Lowry, M.D., author of "Herself," "Himself," etc. Chicago: Forbes & Company, 1919. Price $1.25.

This little book is full of good advice. Doctors might recommend it to many of their female patients, who are fair, fat and forty; lean, light and liverish; cold, careworn, and cattish; bold, bad and bilious. The greater part of the book may be read by all women and most men—of whatever age. It stresses the importance of hygienic living. The dangers from abscessed teeth, worry, the catamenia, and overwork are pointed out. "Speaking of operations," she says the custom is all too common for small gatherings of women to develop into "organ recitals."

Manual of Obstetrics by Edward P. Davis, A.M., M.D., F.A.C.S., Professor of Obstetrics in the Jefferson Medical College, Philadelphia. Second edition, revised. Philadelphia and London: The W. B. Saunders Company. Canadian Agents, The J. F. Hartz Co., Limited, Toronto. 1919.

This volume is designed for the medical student primarily and the general practitioner secondarily. In this edi-

tion new matter is added on diagnosis in early pregnancy, chorio-epithelioma, hydatidiform mole, anesthesia, and analgesia in labor, placental bacteremia, basiotripsy and the Porro operation. Like all the newer works on obstetrics great importance is attached to asepsis and antisepsis. A chapter in closing is devoted to the Medico-Legal aspects of obstetric practice. The book being 12 mo. and not too thick, it lends itself to being perused by the reader in the prone position—a point valued by the tired practitioner and the lazy medical student.

Catechism Series: *Physiology,* third edition, part ii; *Anatomy —Lower Extremity*—third edition, part ii; *Physics,* second edition, part ii; *Medicine,* second edition, parts iv and v; and Fellowship examination papers for the diplomas of the Royal College of Surgeons, Edinburgh, for several years. Price 1s. 6d. each. E. & S. Livingstone, 17 Teviot Pl., Edinburgh.

These little books—quiz compends—are valuable for students to run through just prior to examinations, containing the pith and salient features of each subject dealt with—fine for review purposes. They fit in the pocket and can be read on railroad train, tram or omnibus or while climbing the stairs to the examination hall. They should be put in the overcoat in the cloak room when the bell rings, however, and on no account be taken into the torture chamber.

The Health of the Teacher. By William Estabrook Chancellor, author of "Our Schools," etc. Chicago: Forbes & Company. 1919.

This might have been a good book. The title is good. The idea of writing a book on such a subject is a sensible one, and good lectures in Normal Schools on this subject would be a great advantage to the teaching profession. This volume is the outcome of a number of such lectures by the author.

Perhaps the best chapter is that on " What is Worry?" The author says: "Essentially it is an inner, but not yet consciously admitted inadequacy to the problems and tasks that confront one."

On the whole, one is reminded of what John Stuart Mill said to Carlyle about some of his writings: " They may do good to some people." The book shows thought and care, but the contents are sometimes rather trivial. A less diffuse style and more thorough editing would be desirable.

Pneumonia Prevention and Treatment is the title of a very concise brochure issued by the Mulford Laboratories.

It deals particularly with the production and testing of Antipneumococcic Serum, Pneumo-Strep-Serum and Pneumonia Serobacterin Mixed. Special attention is given to analysis and illustration of the apparatus for intravenous injection, which simplifies the administration to such an extent that an intravenous injection may be safely given without any previous experience. A postal card will obtain this very valuable addition to pneumonia literature, which ought to be on the desk of every physician.

International Clinics—A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by H. R. M. Landis, M.D., Philadelphia. Volume iii., twenty-ninth series, 1919. Philadelphia and London. The J. B. Lippincott Company. 1919.

From among so many excellent contributions to this volume, it is difficult, if not invidious, to select some for special commendation. The clinics of H. A. Christian on Diffuse

Carcinoma of the Stomach, of Ross V. Patterson on Heart Block, Leon Bloch on Aortic Regurgitation, are on topics of common interest and represent up-to-date methods of investigation in such cases.

The series of papers on the blood by F. C. Wood, Libman and J. G. Hopkins dealing with the Cytology, the Bacteriology and the Serology will put the busy practitioner in touch with the latest teaching. The same may be said of the article by Bowden on Laboratory Findings in Nephritis and Their Value in Diagnosis and Treatment. There is a short but very practical paper by Satterthwaite on Digitalis Preparations and Grinker's concluding paper on Syphilis of the Nervous System.

The volume as a whole is replete with information of value, especially to the doctor whose sphere of work is away from the large clinics and libraries, but who wishes to keep in touch with medical progress. H. B. A.

The Oliver-Sharpey Lectures on the Feeding of Nations. A Study in Applied Physiology, by Ernest H. Starling, C.M.G., M.D., F.R.C.P., F.R.S. Given at the Royal College of Physicians, London, June 3 and 5, 1919. Longmans, Green & Co., 39 Paternoster Row, London; and 4th Avenue and 30th Street, New York. Price $1.90 net.

This is an A 1 book. Every doctor, nurse, teacher, and intelligent layman in the British Empire should have a copy, which he should read, learn and inwardly digest. In a clear and concise manner it shows how the British won the war and how the Germans lost it. Through the prescience of the Royal Society physiological facts relative to diet, its source and distribution, were available for the British Government when the crucial times respecting the feeding of the nation came. As the author well says: "The basing of the policy of a Ministry on scientific principles and the close co-operation between administrators and a scientific committee must be regarded as a welcome innovation. The studies of these British scientists showed that during the war the number of underpaid and ill-nourished working

people was materially reduced, and also the number of overfed, lazy rich people was reduced. The lesson for the future is obvious.

Speaking of Chittenden's experiments of administering diets low on protein, Starling points out that all the soldiers and students who volunteered as subjects later on returned to a normal way of living, so that apparently the advantages claimed by Chittenden for a restricted diet had not been sufficiently great to counteract its disadvantages or discomforts—the physiological minimum was not necessarily a physiological optimum. We hope our farmers will buy this book. It ought to be in every rural school, so that the boys in the fourth and fifth book might read it.

Handbook of Skin Diseases, by Frederick Gardiner, M.D., B.Sc. (Public Health), F.R.C.S.E., Lecturer on Skin Diseases, University of Edinburgh; Physician for Diseases of the Skin, Royal Infirmary, Edinburgh. Edinburgh: E. and S. Livingstone, 17 Teviot Place. 1919. Price 6s. net.

The diseases taken up in this little book are those most commonly met with in general practice; although briefly described, the essentials of each disease is clearly outlined. The paragraphs on treatment are excellent, the writer confining his remarks to the treatment he has found most beneficial. The "appendix" should appeal to all medical men, for many useful formulæ are given, with indications for their use.

"The Times" Weekly Edition.

One of the most valuable and interesting English newspapers which reaches Canada is the illustrated weekly edition of the London *Times*. The illustrations, which are beautifully printed, in photogravure, provide the most up-to-date news pictures of Home and Imperial interest, while the editorial contents give the most complete record of current

affairs, based on the most authoritative news service in the world—that of the London *Times.*

Medical practitioners who are looking for an inexpensive but entertaining and informative newspaper to place on their waiting-room tables would be well advised to subscribe for *The Times* weekly edition. This paper is published at sixpence weekly and can be obtained (post free) for £1 10s. 4d. a year from the publisher of *The Times,* Printing House Square, London, E.C. 4.

Encyclopædia Medica. Second Edition, under the general editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.E. Volume VI., Heat Fever to Intertrigo. Edinburgh and London: W. Green & Son, Limited. 1919.

Among the authors contributing to Volume VI of this splendid work are found such names as Dr. James Taylor, Physician to the National Hospital for Paralytics, London; Dr. J. Arthur Thomson, Professor of Natural History, University of Aberdeen; Sir Berkeley Moynihan, K.C.M.G., Surgeon, Leeds General Infirmary; Dr. H. Campbell Thomson, Physician, Middlesex Hospital; Sir D'Arcy Power, Surgeon, St. Bartholomew's Hospital; Dr. Alexis Thomson, Professor of Surgery, University of Edinburgh; Dr. W. T. Ritchie, Edinburgh; Dr. J. Stewart Fowler, Edinburgh; and Sir John Moore, President Royal Academy of Medicine in Ireland. The volume is undoubtedly a *multum in parvo.* It is in itself a complete work in medicine from "Heat Fever to Intertrigo."

Physical Diagnosis. By Richard C. Cabot, M.D., Professor of Medicine, Harvard University, Chief of the West Medical Service at the Massachusetts General Hospital. Seventh edition. Revised and enlarged, with six plates and 263 figures in the text. New York: William Wood & Co. 1919. Price, $4.00.

One would never guess this was by the author of "What Men Live By" (work, play, love, worship); nor that he finds time

to attend to a large practice, to teach a large body of medical students, to attend many hospital patients, and to visit such places as Jackson, Mich., and give a week's clinic to the doctors of the place on their puzzling cases. This is a capital book for students and practitioners, the pictures alone enable the reader to grasp points instantaneously. His war experience has modified the author's ideas on Cardiac Signs of Nervousness, Peribronchial Tuberculosis, Goitre Heart and Empyema. His beliefs about blood pressure and about arterio-sclerosis have also undergone considerable change, and these are incorporated in the new text. A splendid work.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners by leading members of the Medical Profession throughout the world. Edited by H. R. M. Landis, M.D., Philadelphia. Vol. IV, twenty-ninth series, 1919. Philadelphia and London: The J. B. Lippincott Company, 1919.

Vol. IV maintains the interest aroused by previous numbers, by the excellence of the clinical matter presented and the variety of original discussions.

In surgery, Hessert illustrates various types of fractures and operations for their cure. Roberts has an article on incomplete union and mal-union of fractures. Especially of interest to students will be the clinics in orthopedic surgery, covering Colles fracture, bone growth, exostosis and tuberculosis of the hip, also in pediatrics the clinic on tuberculous meningitis and certain acute abdominal emergencies. Social service workers will enjoy the class study in malnutrition in infants. The treatment and control of malaria, the present status of blood pressure, and a study of relaxed lung and its confusion in diagnosis of cavity are carefully considered. The significance of

the cardiac dulness with the use of percussion and landmarks, the ratio of the dulness to the chest circumference and of the transverse diameter of the heart shadow with the transverse internal diameter of the chest is the clinical method outlined by Shattuck. Rare cases of erythema multiforme, of primary neoplasms of cardiac valves, of actinomycosis, new growths and bronchiectasis, mistaken for pulmonary tuberculosis are cited.

Tissue necrosis and autolysis, also a study of the sensitiveness of cortex cells under various influences such as starvation, thirst, shock, etc., are of pathological interest.

Williams shows the more hopeful prognosis in cases of oppressive phobias and Sharpe furnishes arguments for appropriate treatment at the time of brain injury to guard against later irreparable damage by increased intracranial pressure.

"The Health Officer" by Frank Overton, A.M., M.D., D.P.H., Sanitary Supervisor, New York State Department of Health and Willard J. Denno, A.B., M.D., D.P.H., Medical Director of the Standard Oil Company, formerly Secretary New York State Department of Health, published by W. B. Saunders Co., Philadelphia and London. Canadian Agents, The J. F. Hartz Co., Limited, Toronto, 1919.

This is a quarto volume of some 500 pages and apart from the description of the organization of a health department and some other matters which refer particularly to the United States, must prove a treatise of considerable value to health officers in any country.

An excellent outline of the qualities desirable in a health officer is given. The health officer must be a public health specialist, and the duties of his office demand special training. He must be a leader of public health opinion, an educator and have the tact necessary to maintain good relations with practising physicians, his local board of health and the people of the community. As the text says "A health officer's success depends on the man himself. . . . and public health work will be accomplished in direct proportion to the ability and qualifications of the man at its head."

There are valuable chapters on the relation of the local boards and of the physicians and the public to the health officer.

In discussing rural public health work some excellent ideas are advanced and a diagram is shown, indicating that while the death-rate of the City of New York has markedly fallen in the last fifteen years (1900—1915) that of the rural communities has risen and the point is made that the change is due almost entirely to the efficient health work in cities, the rate for New York as compared with the rural districts of the state for 1915 being 13.9 and 14.5, respectively.

The chapters on Public Health Nursing and Publicity and Education are most instructive. It is pointed out that the nurse is the health officer's chief assistant and that a nurse is required for each 3,000 of population. The duties and qualifications of the nurse are outlined and her methods of work prescribed. The educational work of a health officer consists in publicity regarding the scope, objects, methods and results of his activities as well as the scientific principles on which his work is based. Public health education is one of the greatest factors in successful public health administration.

There are chapters upon the simple facts of bacteriology and immunity, upon the public health laboratory, a most useful link in the public health chain, and upon epidemiology in relation to the health department.

In the management of a case of communicable disease the duties of the health officer are pointed out. The means for discovery of cases, of diagnosis and the preventive measures are described and directions given respecting quarantine and disinfection. In reference to the latter, it is pointed out, that if proper care is taken during the course of a sickness there will be no disease germs left at the end of the illness, and consequently no need for terminal disinfection.

The various communicable diseases are then taken up in detail, and simple but striking diagrams given of the way in which diseases are spread. All of these diseases are well described, as to symptoms, diagnosis, and means of distribution and prevention. In smallpox the value of vaccination is emphasized and arguments against this salutary means of prevention taken up and thoroughly disposed of.

The importance of carriers in diphtheria, and the value of early and adequate dosage of antitoxin in the treatment of the disease are emphasized.

The acute respiratory diseases, digestive disorders, and infections of the central nervous system, such as infantile paralysis, are satisfactorily treated.

Venereal diseases are given a separate chapter, and considerable space is devoted to tuberculosis and insect-borne diseases, mental defects, and vermin.

Milk and various other foods are taken up and information given regarding food sanitation and food values.

Chapters are devoted to sanitary engineering, nuisances, and the disposal of household wastes, and these are followed by ones upon sewage disposal, water supplies, ventilation, and industrial hygiene.

Some valuable information is included respecting camp sanitation and child hygiene, and finally the important question of life extension is given a brief chapter.

There is a very good index; the paper, type and illustrations are clear and satisfactory. Altogether the volume is likely to prove very practical and convenient to the everyday health officer.

The American Illustrated Medical Dictionary. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing. Biology and kindred branches, with new and elaborate tables. Tenth edition, revised and enlarged by W. A. Newman Dorland, M.D., Philadelphia and London: The W. B. Saunders Company. Canadian Agents, The J. F. Hartz Co., Limited, Toronto. Price, flexible leather, $5.50 net; thumb index, $6.00 net. 1919.

Dorland's Medical Dictionary has for years been looked upon as one of the most reliable. It is quite elaborate. It is seldom, indeed, that any word in medicine, surgery or an allied science is not to be found somewhere in its pages. The tenth edition is even better than any preceding one and no doctor can make a mistake in purchasing a copy.

Obituary

DEATH OF DR. HERBERT HAMILTON

The profession was greatly shocked to learn on the morning of February 5th that Dr. H. J. Hamilton, one of the best-known medical practitioners in Toronto, had passed away at Wellesley Hospital, after an illness of but three or four days. Dr. Hamilton had been more or less under the weather for a couple of weeks prior to his death, but had continued to attend to his work until he was forced to go into Wellesley Hospital on the Monday evening previous to his death. A pleuro-pneumonia rapidly developed, resulting in his demise a few days later. Dr. Hamilton was one of Toronto's most brilliant practitioners, having been in practice for about thirty-five years. He was born in Peel County fifty-five years ago, graduated from Trinity College, went to England, where he took a post-graduate course, being admitted as a Licentiate of the Royal College of Physicians, London. He was a past president of the Academy of Medicine and a member of the Senatus of the University of Toronto. The funeral service took place on Saturday morning, February 7th, and interment at Brampton the same afternoon.

DEATH OF DR. R. J. DWYER

The death occurred on January 26th at his residence, 734 Spadina Avenue, Toronto, of Robert Joseph Dwyer, one of Toronto's best-known surgeons. The cause of death was organic heart disease, induced by an attack of rheumatic fever some years ago. Dr. Dwyer's death is greatly regretted, as he was perhaps one of the most popular physicians in Toronto, having been superintendent of St. Michael's Hospital for many

years. It was largely due to Dr. Dwyer's efforts that the Nursing School of St. Michael's Hospital was established, and also that co-operation between that hospital and the Medical Faculty of the University of Toronto was promoted. Dr. Dwyer graduated from the University of Toronto in 1892, afterwards taking a post-graduate course in England and later on the Continent.

DEATH OF SIR JAMES GRANT

Sir James Grant, the sole survivor of the first Parliament of Canada, died on February 6th in St. Luke's Hospital, Ottawa. Sir James fell outside the Russell House and broke his hip on January 20, and since that time has been confined in St. Luke's Hospital. He had been rapdily losing strength during the last week.

Sir James Alexander Grant was born in Inverness-shire, Scotland, on August 11, 1831, and was descended from an able and distinguished family. His grandfather was James Grant, advocate at Corrimony, among whose literary productions were essays on the origin of society and "Thoughts On the Origin and Descent of the Gael."

Sir James' father was Dr. James Grant who came to Canada from Edinburgh, and practised for many years in Glengarry.

Sir James Grant was educated in Queen's and McGill Universities. He has practised medicine in Ottawa since his graduation in 1854, and attended several Governors-General and distinguished visitors.

Dr. James B. Campbell, of London, Ont., a leading member of the medical profession in that city, died at his home on February 9th, of pneumonia. Dr. Campbell had suffered from kidney trouble for two years, though recently he had been improving. He was a graduate in Arts and Medicine of the Western University and took a post-graduate course in Europe. He practised in London for twenty years and was Associate Professor of Medicine at his alma mater.

Commercial Department

THE DIFFERENCE BETWEEN ARHEOL AND SANDALWOOD OIL

Sandalwood oil is distilled from sandalwood. It is a coarse, ill-defined, complex product, a mixture of numerous compounds (terpenic alcohols, santalenes, santenes, aldehydes, teresantalic acid, etc.).

Arheol is a definite compound extracted from sandalwood oil. It is in reality a sesquiterpenic alcohol having the formula $C_{15}\ H_{26}\ O$. Arheol in fact is the active principle of sandalwood oil.

The administration of Arheol even in large doses never occasions any kidney or stomach disturbance, however long the treatment is persevered with.

We may therefore prescribe Arheol with every assurance of obtaining the desired effects, and we arrive at the following conclusions:—

1. In blenorrhea and urethritis Arheol may be given at all stages; it cures the more rapidly when given as early as possible after the onset.

2. In acute cystitis, Arheol exerts a remarkable sedative action on pain, it soon modifies the purulence and diminishes the frequency of micturition, its use is unattended by any risk.

3. In chronic cystitis and urethritis it should always be tried before having recourse to the usual methods of treatment; bougies, instillations, and lavages. It improves the state of the urine, calms the pain and spaces the calls to micturition. It is the remedy *par excellence* for these affections which are usually so refractory to treatment of any kind.

4. In pyuria, pyelitis and pyelonephritis, Arheol invariably proves the most trustworthy alternative agent in respect of the urine.

5. In all painful affections of the urinary tract, Arheol is a remarkable analgesic.

"ROBOLEINE"

VERY considerable interest has recently been aroused in the subject of Vitamines. A preparation that has been on the market for a number of years, to which we would like to call attention, is "Roboleine," manufactured by the firm of Oppenheimer Son and Co., Limited, London, England. This preparation contains the three essential Vitamines that are principally necessary for the progress of nutrition in wasting diseases. The Fat Soluble Vitamine is found in the red bone marrow, which is one constituent of "Roboleine," the Water Soluble Vitamine is especially rich in the carefully made extract of malted barley, specially prepared throughout at a very low temperature in vacuo, and the anti-scorbutic Vitamine as introduced in the form of an extract of green vegetables, that are known to be rich in this product, so that it is generally recognized that "Roboleine" comprises the essentials to promote increased development of muscle, nerve and bone marrow. In fact to-day "Roboleine" is ordered in place of malt extract with cod liver oil and similar articles by 90 per cent. of the tuberculosis institutes associated with the city, county, and borough councils of England, as well as those attached to hospitals, infirmaries, and other similar institutions, such as child welfare centres, throughout the whole of Great Britain and Ireland, and is now receiving very considerable attention on this side of the Atlantic. The formula of "Roboleine" is as follows:—

Red bone marrow.
Juice of calves' rib bones.
Cream of malt.
Hypophosphites of lime, soda, and potash.

Its constituents are maltose, diastase, lecithin, cholesterin, phosphorus, calcium, potassium, and sodium.

SIDELIGHTS ON CASCARA

Physicians frequently refer to Parke, Davis and Company as the cascara house—for it was this company which introduced cascara sagrada forty-three years ago. Cascara was unknown to the medical profession until Parke, Davis, and Co.—with the assistance of prominent physicians, chemists, botanists, and pharmacologists—studied the drug and definitely established it as a therapeutic agent.

Cascara immediately sprang into popularity with physicians. It became a subject of discussion in medical meetings—not only in this country, but on the other side of the Atlantic. It was directed to the attention of the British Medical Association at a convention in Cork, Ireland, as early as 1879. It wasn't long before cascara was being prescribed by medical men all over the world. To-day the drug is recognized by every pharmacopeia except the Finnish and Portuguese. It has come to be looked upon as an essential in medical practice.

Fluid extract of cascara (P. D. and Co.) is an ideal product. It contains all of the tonic-laxative constituents of two-year-old bark of *Rhamnus Purshiana,* the true cascara. The dose is about one-half that of ordinary fluid extracts of cascara.

Cascara Evacuant, another notable cascara product, is a palatable preparation of two-year old bark of *Rhamnus Purshiana.* Cascara Evacuant is about twice as active as the ordinary "aromatic" cascara.

THE PRINCE'S POPULARITY

Most people in Canada will remember 1919 especially as the year of the visit of the Prince of Wales, and those who have had the privilege of meeting His Royal Highness during his tour of the Dominion are unanimous in declaring that he is the veritable Prince Charming. One thing that has helped to make the Prince popular is the fact that he is a smoker, and not only enjoys a cigarette, but also likes to see others around him indulging in the weed.

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

PHYSICIANS have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information Christian S. Andersen, Esq.

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Editorials

SYSTEMATIC BOOK-KEEPING

A FEW of our wealthy men can afford to keep office girls, nurses, or assistants to do their book-keeping. Some of their wives do the work, and do it well. Some of the profession do it themselves; sometimes, as when busy, irregularly and incompletely; at other times, carefully and satisfactorily.

It is important to get a good, simple, thorough complete system. Every physician owes it to himself and family, and to his patients as well, to keep his books well. All accounts should be absolutely accurate, and a man should be able to look up any item at once. Some men adopt the card-index system; others use the older-fashioned methods by books—probably the most common way.

Doctors are proverbial bad business men; they have gotten this reputation largely because they are poor collectors. In the writer's opinion the rule

should be to send out accounts monthly—as a rule. Failing payment, the slackers should receive a second notice at the beginning of the following month, with the words " Please remit " or "A cheque will oblige " written upon it. In certain cases a personal note written in a kindly way will bring better results than the formal bill.

It would pay every man who has not already installed one, to install a system of books, and, to the men who haven't time nor assistants in their offices to render bills, to hand this work to a collecting agency. Certain of these agencies do the work of installation and collection of accounts particularly well.

The recent legislation respecting income tax has had one good effect—it has compelled many men who kept their books in a helter-skelter fashion to become more systematic and careful.

INSTRUCTION IN DENTAL DISEASES

THE ignorance of the average medical man respecting dental disease—so very prevalent—is quite appalling. He is not chiefly to blame, though a live man, by a little post-graduate work at a dental college or by association with his local dental confreres, may learn a good deal about gingivitis, odontalgia, alveolar abscess, pyorrhoea and their treatment—medical and surgical. Medical missionaries and practitioners in the country and the frontier have little opportunity for such tuition. Therefore they should learn

as much as possible from the literature, of which, at present, there is an abundance, both in the medical and dental journals and newer texts.

For the oncoming generation of medicos forty or fifty lectures would be quite in order on dental hygiene and prophylaxis, and on the subjects abovementioned. The general family practitioner has an opportunity of seeing the teeth of the growing children long before bad conditions have arisen which necessitate a visit to the dentist. He should therefore be qualified to diagnose all the early abnormal pathological conditions of the teeth, jaws and gums and to prescribe the comparatively simple treatment required at this stage. We would suggest to our university authorities that men like Dr. A. E. Webster, Dean of the Royal College of Dental Surgeons—who are graduates both in medicine and dentistry—give a course of lectures on the elementary aspects of the commoner diseases of the teeth. University of Toronto, you begin. Begin you.

INFANT MORBIDITY AND MORTALITY

INFANT SICKNESS leads to a deplorable waste of human life and sows the seeds of weakness, deformity and impaired vitality in those who survive to take their share in the duty of citizenship; and it contributes in no small degree to the physical degeneracy of the race so plainly noticeable in large cities.

Thus writes Dr. Alan Brown in the *Public Health Journal.*

A suckling baby, he says, extracts a great amount

of energy from the mother—a sick baby even more than a well one. The sick mother's milk soon dries up and the child has to be bottle fed—a serious expedient for the child. Over 3,200,000 infants less than a year old perish annually in the countries comprising the so-called civilized world. In Germany 187 infants die for every 1,000 born; in Russia, 263; in Sweden, 96; in Norway, 86; in Vancouver, 61 (in 1917); in Toronto, 80.4; in Winnipeg, 108; in Montreal, 185. Infant mortality is a "class mortality;" for it is excessive among the poor and low. The importance of breast feeding has failed to secure its proper share of attention. Advertisements of infant foods and an abundance of medical literature on scientific feeding have lulled mothers and physicians into a false sense of security in the practice of artificial feeding. The fearful loss of infant life is so spread over the entire country that the individual physician does not appreciate his responsibility. *A full third of all infants' deaths is estimated as due to unnecessary bottle feeding!* About 25 per cent. of the well-to-do and cultured mothers in New York city who had earnestly and intelligently attempted to nurse, had succeeded in doing so for as long as three months! In Paris 99 per cent. of the mothers are able to nurse their infants. In Toronto, Canadian mothers nurse their infants less than either American or foreign-born mothers! The well-to-do of the city and environs nurse their children less than the poorer classes. Until the recent enlightenment, maternal nursing was less than it was 25 years ago.

The infrequency of nursing results from the ignorance of the laity and the indifference of the physician.

In 1908 New York awakened, the various agencies co-ordinated and divided the city into six districts, which made it possible to reach all sick infants. Seven more milk depots opened. Talks to mothers were given in many centres on the hygiene and feeding of infants; and much literature distributed. Now there are 91 milk depots and 204 welfare stations. *In* 1888, *with a population of a million and a half, over ten thousand infants died;* in 1902, with about three million population, less than 9,000 died. In 1914 Dr. Josephine Baker organized the "League of Little Mothers" in New York city. There are now 20,000 members, who meet weekly during the summer and are taught hygiene and infant feeding.

Numerous campaigns have started in Britain since Lord Rhondda announced that 1,000 babies could be saved each week.

In Ontario a Provincial Bureau of Child Welfare has been established and meetings have been held in some of the larger towns. Everywhere there is lack of organization and willingness to progress. The failure of the medical practitioners to realize their responsibility. *Few of them showed up at the meetings.* There is a universal lack of hospital accommodation for sick infants and children.

We are pleased to summarize Dr. Brown's article with its startling disclosure relative to the terrific mortality of infants and the tremendous lack of interest shown by the medical profession.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

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Original Contributions

*THE RELATIONS BETWEEN PHYSICIANS AND SURGEONS

By B. Z. Milner, M.D., Toronto.

There are many subjects that one might choose for an address such as this, but after considerable thought I have decided that "The Relations Between Physicians and Surgeons" is not the least important. Frequently one hears complaints, more especially from the younger physicians, regarding the treatment accorded by consultants. The cause may be trifling, but if allowed to pass uncorrected, tends to increase the magnitude of the discontent. Believing that by bringing the subject to the notice of the surgical section consideration will be given it and the desired end obtained. To allow the matter to go unnoticed means a growing discontent. Consequently if we are to do our duty in maintaining the honorable position which our professon has held for so long consideration must be given it.

As truly stated in the principles of medical ethics, the prime object of physicians and surgeons is the service they can render to humanity, financial gain being secondary, that they should conduct themselves as gentlemen, and use every honorable means to uphold the honor and dignity of the profession.

If we all lived up to these principles there would be none of the friction that at present prevails in some quarters. First—friction that has arisen over the question of fees, and secondly—owing to the lack of tact in the relations between physicians and surgeons. With reference to the first, the impression prevails among some physicians that surgeons are paid fees far greater in proportion to the fees of physicians in charge of cases where both are concerned. Is this really true? A casual sur-

*Read before the Academy of Medicine, Toronto.

vey of the question will probably result in an affirmative reply, but a careful consideration will produce one quite different. The surgeon, in order to obtain the confidence of physicians, must spend years in hard and unremunerative hospital work acquiring his knowledge of surgical conditions and technique. His sphere is limited as he confines his work to surgery, depending on physicians for support. It is still more limited because many general practitioners practise surgery in addition to their general work, referring to the surgeon only those cases that are of a serious nature and where the responsibility is greater than they care to assume. Moreover, the surgeon's years of professional activity are fewer than those of the physician. Also, the question of responsibility must be considered, individual responsibility where physician and surgeon are jointly concerned. Many physicians claim that their responsibility is equal to that of the surgeon. The best answer to this is, "Where does responsibility rest when the result of an operation is unsatisfactory?" Another operation in that family would mean another surgeon, while the physician remains the medical adviser. To apportion responsibility is obviously difficult, and there is no doubt that the physician does not, in many cases, receive the amount of recognition from the laity that is his just due. It is equally true that the surgeon could in almost every case correct this wrong impression, and it is clearly his duty to do so. Were responsibility in the eyes of the laity correctly understood the question of equalization of fees would no longer be a matter of dissatisfaction with the general practitioner. What is the solution of this matter? The answer is: A frank understanding beforehand between all concerned regarding the amount of the account for professional services, thus eliminating a common practice, that of a surgeon at the conclusion of an operation, enquiring of the attending physician the financial standing of the patient. This is quite reasonable, as it is for the purpose of guiding the surgeon in settling his fee, but sometimes the physician makes a direct statement as to the amount to be charged, which is unquestionably wrong. The matter ought to be discussed directly with the patient or those responsible, before operation if possible, but in

any case by the surgeon, preferably in the presence of the physician. Were this done it would be an easy matter, and quite proper, for the surgeon to enlighten the patient regarding the responsibility of his physician in his skill in diagnosis and advice, even suggesting a proper fee in that respect. The result would be that the patient would know what the amount of his account for professional services would be, thus doing away with subsequent dissatisfaction, and moreover preventing the tendency to overcharge.

There exists in the minds of some physicians an idea which probably is no small factor in causing dissatisfaction, that a physician is entitled to the same amount as the surgeon in all cases referred to the surgeon for operation. I have on more than one occasion heard this statement, and it is hard to see the justice of it in some cases. For instance a patient may have had an ordinary acute attack of appendicitis, and his physician requests a surgeon to operate, or he may send him to the surgeon with a letter. The surgeon acquiesces, the patient going to a hospital for operation, following which the patient has an uninterrupted recovery. The surgeon's fee for example is $100. Does it seem reasonable and just for the physician to expect the same fee? Why was it necessary to send this case to a surgeon? Modern medical science has developed to such an extent that no man can expect to master all branches of the art of healing, consequently the advent of specialists; and when one by work and study fits himself for any particular speciality, giving his whole time to that specialty, he is entitled to special fees. The laity realize the truth of this, and accept it as just, but at the same time do not expect any unnecessary expense. A physician who has a true conception of his professional duty has the welfare of his patients at heart, considers it a part of that duty to protect his patients from undue burden in this respect. He is too honorable to magnify trivialities causing unnecessary anxiety and making unnecessary visits, in fact trying to see how much he can get out of his patient. It is not suggested that he go to the other extreme. It is certainly true that he very often charges too little for service rendered. His fee should always be in proportion to the advice given and responsibility assumed,

but he should not allow the spirit of commercialism to enter into his professional dealings with his patient by expecting a fee for merely advising the necessity, and in the selection of a specialist.

Concerning the relations between physician and surgeon when associated on a case, the opinion prevails, not infrequently, that there is a lack of courtesy and consideration extended the physician by some surgeons. This is probably due, in many cases, to thoughtlessness or an unfortunate mannerism on the part of the surgeon, though in some instances this explanation is quite insufficient. The most common complaint is that the behavior of the surgeon is that of a man who "feels his importance," which does not tend to increase the confidence of the patient in his physician. A young graduate once told me that a consulting surgeon greeted him on entering a home where the said young physician was awaiting him in this manner: "Well, X——, what trouble have you been getting into now?" This, I know, is an extreme case, but it actually occurred. One can express himself quite effectively without talking, merely by gesture or facial expression, conveying the impression that one knows more than he cares to make known. One guilty of such conduct is wholly devoid of honor. This again is extreme, but is not unknown.

A consultant should always, by every honest means, endeavor to increase the confidence of the patient anl his friends in the family physician. Being requested to perform an operation does not imply that the surgeon is expected to take complete charge of the patient. Nor should it mean that he leave the post-operative treatment entirely in the hands of the physician, no matter how competent he may be. Some physicians take the stand that the surgeon is only expected to perform an operation, and, that done, his interest in the case ceases; that in the matter of after-treatment the physician knows quite as much about it, if not a little more, and if any advice about the case is wanted the surgeon will be notified. In short, that post-operative treatment is purely medical and not surgical. This line of action is certainly questionable. The surgeon is surely something more than a mere medical mechanic. To ac-

cept such dictum is placing him in that position. If the convalescence is smooth, everything is satisfactory, but let it become stormy and the surgeon's advice is quite acceptable.

On the other hand it is equally absurd for the surgeon to take upon himself the sole care of the patient. Physicians resent this, and rightly so, saying it places them in an ignominious position. No matter how incompetent a physician may be, there is no necessity for the surgeon to assume sole responsibility unless requested to do so. In many instances the physician has been the medical adviser and friend of the patient for many years, and it is clearly in the best interests of the patient that his physician should be in constant attendance. At the same time the patient would probably feel that the surgeon was remiss in his duty were he not to visit him occasionally. Joint control in all cases of after-treatment, and there is no reason to the contrary, is best for all concerned, and why the professional relations should be other than perfectly amicable is hard to understand. Such a course seems best for the welfare of the patient, and therefore is of first importance. That there should be any feeling of distrust or jealousy is regrettable, and does not tend to increase the dignity of the most noble of all professions in the lay mind.

The real reason for such friction is the disregard of medical ethics. Were we all to read and live up to that chapter on "The duties of physicians to each other and to the profession at large," and especially the first section, " The obligation assumed on entering the profession requires the physician to comport himself as a gentleman, and demands that he use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards, and to extend its field of usefulness," etc., there would be no ground for complaint, and these unpleasant little situations would become a thing of the past.

THE PREVENTION OF CHRONIC MIDDLE EAR DISEASE

BY J. K. MILNE DICKIE, M.D., F.R.C.S. EDIN.
Assistant in the Department of Oto-Laryngology, Toronto University.

THERE is an aspect of middle ear disease which has so far received very scant attention, namely, that of preventing the occurrence of serious ear lesions by early systematic treatment. Prevention of chronic middle ear suppuration is not a vain dream, but a practical proposition, which, if tackled seriously, would be of both physical and educational value to the community. That the numbers of individuals suffering from middle ear disease in some form or other are sufficiently large to warrant the expenditure of a considerable amount of time and money in its prevention the writer will endeavor to point out in the succeeding pages. Hitherto attention has been directed mainly, if not entirely, to the treatment of well established pathological conditions in the ear, many of which give very discouraging results. The results of early treatment of acute ear conditions are on the other hand very good, and if all cases came under the care of competent otologists at an early stage a large increase in the number of cures could be confidently expected.

To give an approximate idea of the prevalence of ear disease sufficient to cause disability the following figures may be quoted. In the examination of English school children in 1908, it was found that one in sixty had otorrhea,while in the infant classes one in thirty had otorrhea. Five per cent. of the children had defective hearing. (1). Out of 16,907 school children examined in 1918 by the school medical inspectors of Toronto 413, or 2.4 per cent., were sufficiently deaf to attract attention and were referred for special treatment. The conditions requiring treatment were not definitely stated, but were probably otorrhea.

These figures are interesting but they probably greatly underestimate the prevalence of otitis media in children. They represent only those in whom the disability is very marked. Deafness even in severe lesions of the ear is not so prominent a symptom in childhood as it later becomes in adult life, and

therefore these figures do not take into account the large group of individuals, who in childhood can hear tolerably well, but later develop a degree of deafness, which interferes considerably with their capacity for earning their livelihood.

Smurthwaite, (2) working in an English base hospital, found that out of 5,000 patients who attended the ear and throat clinic 890, or 15.8 per cent., had chronic middle ear suppuration. Out of a total of 1,409 ear, nose and throat cases seen by the author while serving with the Imperial Forces in France, 499, or 35.4 per cent., were suffering from suppurative otitis media or its results, i.e., with an open perforation with or without discharge. Cases with healed perforations are not included in these figures. Out of 296 cases seen in a base hospital, 39.8 per cent. had suppurative otitis media, while out of 1,113 cases seen while with the second army, 34.2 per cent. had suppurative otitis media. In the Surgeon-General's Report of the United States Army for 1916, it is noted that of those recruits rejected on medical grounds otitis media forms the third highest group. However, in the examination of the recruits for the United States Army in 1918, the proportion is much lower, thus, of 467,694 recruits rejected on medical grounds, ear conditions accounted for 20,465 or 4.4 per cent. (3.)

In considering the amount of disability due to ear disease the question of deaf-mutism naturally arises. Deaf-mutism is caused by the complete or almost complete loss of hearing in early childhood, and represents the highest degree of functional disturbance brought about by ear disease. Middle ear disease alone rarely causes enough deafness to bring about deaf-mutism. The inner ear is nearly always involved as well. It is by no means a very rare condition; there are in fact living in Toronto at present about 200 adult deaf-mutes and about sixty adolescents over sixteen years of age. In the school for the deaf at Belleville there were at the end of 1918 290 pupils. (4.) The writer was unable to obtain data giving the relative proportions of congential and acquired deaf-mutism.

Again, it is not merely from the functional point of view that middle ear disease is important, but also as a source of ill-health and danger to life. Among the poorer classes of the

public a great deal of ignorance prevails on the subject of running ears, in fact, the presence of a running ear is regarded either as a thing of no importance or as the normal condition. This accounts for the much greater prevalence of suppurative otitis media and its complications in the poorer classes than in the middle and wealthier classes. In this connection it is interesting to note that in a series of 306 radical mastoid cases reported by J. S. Fraser (5) 297 were free hospital cases and only nine were private cases. This series included twenty-five cases of severe intracranial complications and twenty-six cases of labyrinthitis. The inference from this is that chronic middle ear suppuration is a disease kept up by ignorance and neglect.

That middle ear disease is a danger to life has long been recognized in certain quarters, and most life insurance companies add three years to the premium in mild cases and reject altogether those cases in which the suppuration does not respond to treatment.

From 1909 to 1918 inclusive, there were in Toronto General Hospital 4,347 deaths from all causes. Of these sixty, or 1.38 per cent., were due to the complications of middle ear suppuration. Several cases of meningitis are included in the above figures in which at autopsy the ear was shown to be the source of infection of the meninges. It is possible that some more cases were overlooked. Examination of the Registrar-General's Reports of the years 1909 to 1917 inclusive, for the Province of Ontario, shows that there were 301,573 deaths from all causes, of which 229 deaths were stated to be due to ear disease. For the City of Toronto the corresponding figures are 551,276 and sixty-nine.

While the figures representing deaths from ear disease may appear very low, the explanation is probably that the deaths were generally registered as due to meningitis, brain abscess, or one of the other serious complications. Closer examination of the figures reveal the fact that there were more deaths due to the complications of ear disease in Toronto General Hospital alone in certain years than are shown in the Registrar-General's Reports for the whole of Toronto. In the Registrar-General's Reports there are three large groups, namely, diseases of the

nervous system, meningitis, and miscellaneous diseases of the brain, which probably include many of the complications of ear disease. If in large teaching hospitals patients die from unrecognized ear conditions, how much more likely is it to occur in general medical practice, especially in the more remote districts! Probably a fair proportion of the cases classed as meningitis were really ear complications.

Preysing (6) in a series of 100 post-mortem examinations in children under three years of age, found pathological changes in the ears in 81 per cent. Of the bacteriological findings that were positive the pneumococcus was present in 92 per cent.

Pathology.

The pathological processes which take place in acute and chronic middle ear catarrh, and acute and chronic middle ear suppuration, are essentially similar and vary only in degree. While the ear may become involved by metastatic infection through the blood stream or even by spread from the meninges via the labyrinth, such cases are extremely rare and for practical purposes may be disregarded. Infection of the middle ear tract is almost invariably a direct spread from the nasopharynx. Thus, acute otitis media commences as an extension up the Eustachian tube of a catarrhal process in the nasopharynx. The same changes occur in the mucous membrane of the tube and tympanum as are seen in the nose and nasopharynx. There is a local hyperaemia followed by copious secretion of mucous and serous fluid. A little later leucocytes appear in large numbers under the mucous membrane and begin to penetrate the epithelium and appear on the surface. The secretion at this stage takes on its purulent character. After a few days the secretion may diminish and the parts gradually return to normal. Frequently, however, instead of a complete resolution occurring, the inflammatory process becomes subacute and passes into a chronic state characterized by small-celled infiltration of the submucous tissues along with fibrous changes.

In acute middle ear catarrh there is a local hyperemia followed by an outpouring of mucous or serous fluid into the tympanic cavity. The mucus comes entirely from the tube, which

is richly supplied with racemose mucous glands. There are no mucous glands in the tympanic cavity or mastoid cells. When the tympanic cavity is full of fluid there is deafness accompanied by a feeling of fulness in the head. The condition may subside and the fluid may be re-absorbed, or it may remain in a subacute stage. On the other hand, if the infection is more severe the fluid continues to be poured out into the confined space of the tympanum till the tension is relieved by perforation of the drum membrane. After drainage is established the condition frequently subsides. If, however, the original infection was fairly virulent and mixed infection is superadded, the inflammation becomes chronic, and the ear continues to discharge. The mucosa of the ear becomes thickened and polypoid, and later caries of the underlying bone takes place. In these changes of mastoid cells usually participate, and from this the various complications, such as mastoiditis, labyrinthitis, sinus thrombosis, brain abscess, and meningitis are liable to follow. If the infection is very virulent the process may spread through the round or oval windows to the labyrinth, and thence to the meninges without perforation of the drum membrane. Such a case has been histologically proved by J. S. Fraser. (7.)

Otoscopic Appearances.

A commencing inflammation in the middle ear usually shows itself first as a dilatation of the vessels along the handle of the malleus and on Shrapnell's membrane. Later the whole membrane becomes red; the malleus can no longer be distinguished, and the membrane bulges outwards. This is more apparent in the posterior segment of the membrane on account of the obliquity of its position. If the inflammation becomes worse the membrane eventually gives way and a perforation results. This may be small or large. When an inflammation of the middle ear is subsiding radiating vessels are frequently seen on the drum membrane. This can only be seen when the diffuse redness is disappearing, and is usually an indication that the condition is improving.

Predisposing Factors.

Any condition which tends to set up an acute or chronic nasal or pharyngeal catarrh favors the development of a pathological ear condition.

In children by far the commonest predisposing factor to middle ear disease is the occurrence of adenoids with or without diseased palatine tonsils. Such conditions when present should receive appropriate treatment.

In the case of adults the extremely unnatural conditions in which modern man lives accounts in a large measure for the prevalence of chronic nasal catarrh. The lack of exercise, the use of tobacco, and the habit of living in a dry, overheated atmosphere all tend to render the individual less able to resist infection, especially if he is exposed to it in massive doses, as in the ordinary street car.

The nose is an organ with two main functions, namely, olfactory and respiratory. The lining walls of the inferior meatus and to a certain extent also of the middle meatus constitute a delicate mechanism for warming and moistening the inspired air. During ordinary quiet respiration air reaches the lungs in a condition of fairly constant temperature and humidity. Incidentally the air is filtered and freed from solid particles to a certain extent. The mucous membrane is composed of a layer of columnar ciliated epithelium, under which is a loose stroma containing vascular erectile tissue and numerous racemose mucous glands. By the swelling or shrinking of the turbinates the heating and moistening of the air is carried out as required. Incidentally a fair proportion of the bacterial contents of the inspired air are arrested in the nose. Modern conditions throw an undue strain on this organ. In winter the average room temperature is 70 degrees or over, and the atmosphere is very dry. Outside the temperature may be very low and the air either damp or dry. In going suddenly and repeatedly from a hot, dry atmosphere to a cold one, and *vice versa,* excessive work is thrown on the nasal mucous membrane, leading in a short space of time to a state of chronic catarrh. Caldera and Desderi (8) have shown also that the number of

bacteria found in the nose is greatly increased after breathing in a dry atmosphere for some time, and this is especially so in thickly populated areas. There is some evidence to show that the secretions of the normal mucous membrane of the nose are to a certain extent bactericidal (Thomson & Hewlett), (9) and the lodgement of bacteria on the mucous membrane is rendered still more difficult by the action of the cilia, which keep the secretions moving over the surface. Drying of the mucous membrane of the nose and pharynx inhibits the action of the cilia, and hence it is more easy for the bacteria to get a foothold. Sooner or later everybody comes into close proximity to a person suffering from a cold in the head, and if the nose is already in an unhealthy state its owner falls an easy victim to the infection.

Although it is well known that a common cold is highly infectious, very little effort is made as a rule by people suffering from one to prevent its spread to others. It is a common experience to feel the spray on one's face of a person coughing or sneezing. Under such circumstances it is almost impossible to avoid being infected. People suffering from an acute coryza should isolate themselves as far as possible at home, or if that is not possible, an effort should be made to cover up the mouth and nose with a handkerchief before coughing or sneezing, instead of spluttering infectious material over anybody who happens to be near.

Etiology.

The common infectious cold or acute coryza is a fairly frequent cause of acute otitis media, but as a rule its effects pass off rapidly, and it is not followed by extensive destruction of the membrane, ossicles, or other tympanic structures. An acute mastoiditis may result, but after prompt surgical intervention and drainage of the antrum the parts return to normal, and perfect hearing may be confidently expected.

Influenza in its general effects on the ear is very similar to acute coryza. The writer is unfortunately not in a position to give statistics showing the effects of the influenza epidemic on the ear.

We now come to the most important group of all, namely,

the acute infectious fevers. Prevention of the fevers themselves is one of the concerns of the Public Health Service, and does not come within the scope of this paper. The prevention of ear complications during the course of these diseases is, however, a subject which may be considered here.

Every otologist is familiar with the type of chronic middle ear suppuration in which the drum membrane is almost entirely gone. After cross-examination the fact is generally elicited that the disease started with scarlet fever or measles. This condition is usually brought about by the rapid accumulation of highly toxic fluids in the tympanum. Necrosis of the drum membrane occurs, and a large part of it sloughs away, leaving a permanent perforation. While on account of the excellent drainage many of these cases dry up, the functional result is very bad and a high degree of deafness follows. Many cases with smaller perforations continue to discharge for many years with formation of polypi or cholesteatoma. The patient is liable to occasional acute attacks, one of which may ultimately lead to some of the serious complications already enumerated. The scarlatinal type is by far the commonest as well as the most dangerous to life and destructive to hearing.

With regard to the frequency of ear complications in scarlet fever Alderton (10) found acute middle ear suppuration in 11 per cent., McCollom (11) in 18 per cent., Friedberg (12) in 14 per cent., Borden (13) in 11 per cent., and Emerson (14) in 15 per cent. Of the 658 cases treated in the Toronto Isolation Hospital in the year 1919, sixty-nine or 10 per cent., had otitis media, and of these six developed mastoiditis. In the series of Burckhardt-Merian (15) out of eighty-five patients with ear complications seventy-two, or 84.7 per cent., were bilateral.

In the fatal cases of scarlet fever examined at autopsy by Emerson, otitis media was present in 92 per cent. Of fifty-nine cases of mastoiditis only eight were recognized during life. Borden (16) found otitis media in 94 per cent. of fatal cases of scarlet fever. Friedberg found at autopsy otitis media in 90 per cent. of scarlets. Alderton reports that out of 178 cases of otitis media forty-seven, or 26 per cent., required a mastoid operation. The mortality of the operation cases was 25 per cent.

Measles.

In 2,106 cases of measles Alderton found otitis media 326 times, that is, in 15 per cent. Of these 326 cases thirty-four, or 10.5 per cent., required operative treatment. Of these thirty-four operation cases ten, or 29 per cent. died. The high death rate in the case of mastoiditis in measles is attributed mainly to respiratory complications. Borden found otitis media in 28 per cent. of a series of 456 measles patients. In the fatal cases otitis media was present in 100 per cent.

Where measles and scarlet were present concurrently Alderton found that the percentage of ear complications was considerably higher. Thus, of eighty-nine cases twenty-seven, or 30 per cent., had otitis media. Of these twenty-seven cases seven, or 26 per cent., required operative treatment. In a series of 252 autopsies on patients with scarlet fever, measles, or diphtheria, Emerson found otitis media in 92 per cent.

Diphtheria.

In Borden's series of 962 cases of diphtheria, ear complications were present in 2.9 per cent. Four fatal cases of diphtheria, who died at a late stage of the disease, all had double otitis media. In three out of these four there was single or double mastoiditis. There had been no symptoms during life. In a series of autopsies on fatal diphtheria cases, ear complications were found in 82 per cent. Borden also remarks that the onset of otitis media is usually fairly late in the course of the disease. In Toronto Isolation Hospital in the year 1919 there were 1,082 cases of diphtheria, and of these thirty-nine, or 3.6 per cent., had otitis media. Of these thirty-nine, two developed mastoiditis.

Both Alderton and Emerson draw attention to the rapid improvement after paracentesis. The former states that the percentage of cases of mastoiditis in scarlet fever fell from 0.323 per cent. to 0.195 per cent., and in measles from 0.181 per cent. to 0.07 per cent. after early use of paracentesis.

Typhoid Fever.

Vergues (17) in a series of 359 cases of typhoid fever found

otitis media in 7.2 per cent. This was not associated with much pain and usually came on in the stage of recession.

While most of the foregoing facts refer only to suppuration in the middle ear, it must not be forgotten that large numbers of patients suffering from deafness without suppuration also date the commencement of their trouble to one of the exanthemata. In cases of this sort probably a subacute inflammation was present at first, and was followed by infiltration and fibrosis of the submucous layer in the middle ear, with consequent interference with the movement of the ossicular chain.

Treatment.

The question of general hygiene and the treatment of enlarged tonsils and adenoids when present has already been considered.

All cases of acute otitis media should be examined and treated as early as possible, preferably before perforation has occurred. Most otologists will probably agree upon the good results obtained by paracentesis of the drum membrane before spontaneous rupture has occurred. The discharge ceases in anything from a week to a month, but generally within a fortnight.

When a patient develops symptoms of acute otitis media a brisk purge should at once be administered. He should be put to bed and an endeavor made to get his skin to act. Large hot drinks, aspirin, and hot water bottles may induce perspiration. Local applications of heat to the ear may relieve the pain. A hot water bag to the side of the head, or the instillation of warm oil into the meatus are frequently of benefit. Warmed drops of 10 per cent. menthol in liquid paraffin, or Acid Carbol, miii, Glycerin ad ℥i are useful.

However, if after twelve or eighteen hours the pain is not less, and if the drum membrane is pink and bulging, no more time should be spent on palliative measures. The membrane should be opened and free drainage established. If the operation is performed with reasonable care no risk is incurred.

Technique of Paracentesis.

A good light is essential, whether it be from an electric, gas, or oil lamp. The light is reflected into the auditory meatus from a forehead mirror. The instruments required are an ear speculum, a paracentesis knife of any pattern provided it be sharp, and a pair of ear forceps. Either general or local anesthesia may be employed. Nitrous oxide or ethyl chloride are very satisfactory as general anesthetics. If local anesthesia is preferred Blegvad's or Bonain's solutions generally give pretty complete anesthesia. Blegvad's formula is:

Cocain Hydrochloride	1 part
Acid Salicylic	1 part
Spirit. Vin. Rect.	2 parts

Bonain's formula is:

Cocain Hydrochloride.		
Acid Carbolic		
Menthol	*aa*	gr. viii
Spt. Vin. Rect.	ad	℥ gs

Of the two formulae Blegvad's is the more efficacious, the salicylic acid allowing the cocaine to penetrate into the layers of the drum membrane. The meatus is cleansed thoroughly with spirit and the anesthetic drops are applied on a tiny mop of cotton wool. The wool is left in contact with the drum membrane for about five minutes. A slight drawback to these local anesthetics is that after their action the drum is bleached, and it may be a little difficult to recognize the point one intended to open. The membrane is generally opened in its posterior half. A long vertical incision is made from the posterior fold above, right down to the lower edge. A mere stab is of very little use, free drainage being necessary. After the incision is made the secretion in the middle ear must be blown out into the canal by the patient holding his nose, shutting his mouth, and blowing hard. If that will not answer, Politzerisation or the use of the Eustachian catheter will probably act. Another method is to suck the discharge out with a Siegle speculum. The ear is now treated by frequent syringing with warm

boracic lotion, followed by instillation of drops of peroxide of hydrogen or some other mild antiseptic.

The treatment of the ear complications of scarlet fever is sufficiently important to require special mention. It must be remembered that the type of otitis media produced by scarlet fever is one of the most destructive that we meet with clinically. It is responsible for one of the largest groups of deaf-mutes. Burckhardt-Merian in an investigation of 4,309 cases of acquired deaf-mutism found 445, or 10.3 per cent., due to scarlet. Mygind (18) found in 208 Danish cases of acquired deaf-mutism forty-three, or 20.8 per cent., due to scarlet, and eleven, or 5.3 per cent., due to measles. Salomonsen, quoted by Mygind, gives 33 per cent. due to scarlet. Roosa (19) in 147 cases of acquired deaf-mutism found sixteen, or 10.8 per cent., due to scarlet, and seven, or 4.7 per cent., due to measles. Lemcke (20) found scarlet the cause in 24.4 per cent. and measles in 8.3 per cent. In the deaf-mutes in Toronto at present scarlet is responsible for by far the largest number. It was unfortunately not possible to get exact data.

One of the first essentials in the treatment of scarlet otitis is its early recognition. To wait till discharge appears is in many cases too late for effective treatment. Irreparable damage may have already been done to such an extent that the patient's future career may be prejudiced. It cannot be too strongly urged that the time to institute treatment is *before* perforation has occurred. Symptoms suggesting involvement of the middle ear are frequently absent, or at any rate masked by other complications in the early stages of scarlet. The temperature chart may not be of much help unless the ear complications come on late, in which case there is a sharp rise with an equally sharp fall after spontaneous rupture or paracentesis. Even in serious cases the temperature may not be above 100 F. (Borden). The patient may also be too young to draw attention to his ear. A blood count gives no help as scarlet itself from the second to the eighth day produces a leucocytosis of 18,000 to 40,000, which is unaffected by the presence of complications, according to Tileston and Locke. (21.)

It is evident that a commencing otitis media is not likely to

be discovered unless one looks for it specially. The obvious remedy is that all cases of scarlet fever should be examined at regular intervals during the acute stage, and as soon as any redness of the drumhead is detected paracentesis should be carried out without delay and treatment by syringing and drops commenced. As the inflammatory process is so rapid in scarlet, it is best not to waste time on palliative measures. The fact must not be forgotten that if the membrane is not opened early the disease may spread through the round or oval windows into the labyrinth, causing permanent total deafness.

Measles and diphtheria cases should be treated on the same general lines, as those of scarlet. There is some difference of opinion as to whether nasal douching is advisable as a prophylactic measure in all cases. It is certainly indicated in cases with very copious purulent nasal discharge, while for milder cases spraying with a solution of menthol in liquid paraffin or dichloramine-T will suffice.

It is evident that such treatment would occupy a considerable amount of time of both doctors and nurses. In most isolation hospitals the medical officers have neither the time nor the necessary technical knowledge to carry out ear treatment, and hence it seems desirable that all large isolation hospitals should have a paid otologist attached, who would be prepared to devote a considerable amount of time to this work.

One other condition deserves mention, namely, tubercular disease of the ear. Two types are met with clinically, firstly, that occurring in adults in the later stages of pulmonary tuberculosis, and secondly, that occurring in young children. The former is a comparatively rare condition and need not be discussed here. With regard to the infantile type the writer is not yet sufficiently familiar with the clinical conditions in this country to estimate its prevalence here, but in Scotland it is a fairly common condition. Logan Turner and J. S. Fraser (22) found that it accounted for 2.8 per cent. of all cases of otitis media. However, on further analysis it was found that of 51 cases of tubercular otitis media occurring in children under fifteen years of age, 43, or 84 per cent., were in patient's under one year of age. Taking all cases of otitis media under two years of age, 27 per cent. were tubercular, while under one

year fifty per cent. were tubercular. Of the cases found in the first year of life 74 per cent. began within the first six months. Moreover, it was found that 88 per cent. of these children were bottle-fed, and that in only the rarest instances was the milk boiled. Researches by A. Philip Mitchell (23) on tubercular cervical glands showed that in 90 per cent. of the glands examined bovine tubercle bacilli were demonstrated, while human tubercle bacilli were present in only 10 per cent. Mitchell also examined bacteriologically 406 samples of milk from different dairies and found live tubercle bacilli in 20 per cent. of them.

From the above facts it is fairly evident that tuberculosis of the middle ear tract is due to the use of tubercle-laden milk for feeding babies, and hence is clearly a preventable disease.

The clinical picture of the disease is very definite. It shows itself by the appearance of discharge from the ear followed or accompanied by enlargement of the periotic glands or swelling over the mastoid process. The total absence of pain is very characteristic. The age of the patient and a history of bottle-feeding on unsterilized milk will help to form a diagnosis. For fuller information the reader is referred to the *Journal of Laryngology* of June, 1915, where the subject is fully discussed.

In Great Britain an attempt has been made to improve the health of school children by the formation of school clinics. Large numbers of children with otitis media attend these clinics and receive daily treatment. In certain towns otologists inspect these cases periodically and supervise treatment. The results of this have been distinctly gratifying, a large percentage of cures having been reported.

A few hints regarding a satisfactory method of treatment may not be out of place. The most satisfactory routine method of treatment in middle ear suppuration is by syringing. If carried out with care a great diminution of the discharge and even complete drying up occurs in the ordinary type of case. Where treatment has to be carried out either by the patient himself or by his relatives the best type of syringe is the small pear-shaped, all-rubber syringe, to be had at most drug stores. Any weak antiseptic lotion, such as saturated solution of bor-

acic acid, will do. The lotion must be at body temperature. If it is too hot or too cold vertigo will be produced. The nozzle of the syringe must be introduced well into the canal to make sure that the fluid reaches the drum. The syringing should be repeated till the returning fluid is clear. After a thorough cleansing in this way the canal should be dried with a cotton wool mop and the ear filled with hydrogen peroxide or equal parts of peroxide and alcohol. Saturated solution of boracic acid in rectified spirit may be used instead of the peroxide drops. The drops should be allowed to remain in the ear for about five minutes. Repeat the process twice a day or oftener if necessary.

The treatment is rendered more efficacious if the discharge is blown out of the middle ear into the meatus before syringing either by autoinflation or by politzerisation.

In conclusion, the writer wishes to express his thanks to Dr. Gray for permission to use the statistical material of the Toronto General Hospital, and to Dr. F. W. Leech for the figures from the Isolation Hospital, and also to Dr. Whyte for figures relating to the school children of Toronto.

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Selected Articles

CALLING A SPADE A SPADE

The practice of medicine, like life itself, is fast becoming just one ——— thing after another. Hardly has it recovered from one dispensation originating in Boston before another is handed it from the same place. Was it not a Boston Transcendentalist who, according to tradition translated dancing from "poetry" into "religion" and a metaphysician of this place who did the same for "medicine," much to her eternal profit and renown? With the passing of "New Thought" there has been brought to New York, the market place of all the philosophies, the "New Tendency" just presented before the Harvard Alumni Association by Commissioner Haven Emerson of the Department of Health. This seems but a recrementitious adaptation of the Brook Farm experiment to the present day needs of medicine. Here this plea for the "Socialization" of our art: "Co-operation is fundamental. The beginner cannot go it alone. The problem is one of detection of as yet unsuspected early indications of Susceptibles, approaching deviations from the normal limits of individual variation, progressive departure from safety in various functions. To give an opinion takes a much higher grade of diagnostic skill than does the practice of medicine upon the sick." Pray when did it not "take a high grade of skill to give an opinion?" Consider the classical case here given:

"Doctor, what do you think is the matter with my little boy?" "Why, my dear madam, it is only a corrustified exegesis antispasmodically emanating from the germ of the animal refrigerator and producing a prolific source of irritability in the pericranial epidermis of the mental profundity."

"Ah! that's what I told Betsy, but she 'lowed it was worms."

What difference, if any, in skill in explanation is there in this "lingo" compared to that given in the "New Tendency" in even the brief excerpts quoted above? If we turn to the more serious side of the "New Tendency" we will find it presented as follows:

"Once the public recognizes the tremendous per cent. of errors in diagnosis *even under the best hospital conditions* it is, to my mind, a close question whether the medical profession will feel more humble or the layman more alarmed when universal and recorded autopsies exhibit the limit of medical capacity."

It might be said in passing that this is about the "limit" for one who aspires to be the family physician of New York City. But to our mutton:

"The opportunity is calling. Co-operation is necessary for efficient 'service' to the public. Will you wait until the State demands that you practise under her control, etc., etc.?"

Below is given an antithesis to Boston's "Hymn of Superiority," a deification almost of its non-medicinal products, the bean, the cod, and of its families, medicinal and otherwise, the Cabots and the Lowells. This might be called the "Song of Humility."

Here's to the town of New Haven,
The city of learning and light,
Where God talks to Jones
In the very same tones
That he uses to Hadley or Dwight.

—*The Medical Economist.*

SHELL SHOCK

Summarizing his article on the above subject Dr. A. B. Gilliland, in the *Medical World,* says:

Judging from knowledge gained at present it seems that in shell shock we have only an exaggerated manifestation of well-known psychopathic states produced by the shocking influences of every-day life.

That one type of these cases seems to be caused by the

concussions of the exploding shells producing directly or indirectly minute hemorrhages into the cerebro-spinal tissues.

That the usual means for treating psychopathic conditions are to be used, but the treatment must be chosen with the greatest care and its application be based on the findings of a most careful and extensive investigation of all the conditions present, in order to effect a cure and not produce a chronic invalid, who will be a burden to himself, his relatives and friends, and to the state.

That these cases can be treated in the best manner in a quiet place away from all that suggests war and hospitals, and in places specially equipped for the purpose.

And that preparations for handling the many cases which will come to us should not be delayed, and that the preparations must be made on a large scale and in a manner to assure training the injured to a useful productive life, as quickly as possible, in order to save them from falling into a habit of idleness.

"THE COME DOWN"

By Corporal Ian Mackay, R.A.M.C.

"You see I'm a 'category' man," said Tich regretfully, dipping a monstrous scrubbing brush in the very dirty water of his pail, and scrubbing yet another section of the orderly-room floor.

"When I was in Heatherbell Camp, and the Sarn't came along to tell me I was 'home-service only' I thought that was something good. I never thought home-service only meant fatigues for ever. That's what we get to do—scrub floors and wash windows—all of us category men—'cept those as are runners."

It is a curious phrase, that of "category men." Originally "low category men," by one of those changes which do not originate with the grammarians, it has lost the initial word "low," but retains its sense, being so understood throughout the army.

"We were sent to the Bandagers, 'go to the Ban-

dagers—you and Pudden and Stella.' You know Pudden and Stella, Corp.; Pudden's the lad you set on sweeping the front, and Stella's him that looks like a girl. He's dusting the tables. We said, 'That'll be all right, transfer to the Bandagers at Seaside—cinemas 'arf-price and all that.' Never thought we'd be turned into domestic servants, keeping orderly-rooms tidy.

"When the war's over, and the girls keep on doing the men's jobs," he added, thoughtfully, "you'll see me and the other chaps waiting in Registry Orfices for 'ousemaids' situations.

"You know, I s'pose it's all right, as a Corps, this 'ere Bandage Battalion, but give me a fighting unit. Sooner be bandaged myself than be a bandager any old day. Wouldn't you? And all our pals is still in the Cockerells, and that *is* a regiment.

"You sh'd see the Cockerells on a route march through the French villages, or taking over a trench, or at bombing practice. How a chap can join this mob *on purpose*—well, it beats me. Did you join it on purpose, Corp.? Or were you a transfer, too? Well, everybody to his taste, if he can please himself."

The memory of a joke seized Tich, and he chuckled hugely.

"Fair tickled me, first time I saw a Bandager on guard. Just fancy, on guard with a swank-cane for a weapon. 'Alt, who comes there?' 'Friend,' says the feller you've challenged. 'Spose he said 'Foe,' what would you do then with your four-pence-halfpenny cane? 'It 'im on the 'ed with it?

"It's some game being on guard with a rifle in your hand. You know where you are. But—on guard with a stick! That's the stuff to give 'em. A swank-cane—that's the stuff for the troops. I'd sooner be a p'leeceman with a hefty truncheon."

Tich scrubbed really well under the impulsion of his own derisive laughter, but he had been scrubbing the same square foot all this time, and he grinned as he obediently commenced upon a fresh patch.

"I'd sooner be a lance-jack in the Cockerells than a Regimental Sarn't-Major in the Bandagers!" he said triumphantly.

I had heard something like that before—"I had rather be

a doorkeeper in the ——." Yes, it was a parallel passage, and Tich was as sincere as the Psalmist. Tich regards himself as a Cockerell still, fallen on evil days, disguised as a member of the Bandage Corps. He knows only one case more tragic than his own.

"Poor old Jock. Royal Grampian Fusiliers he was transferred from. Fair broke poor old Jock's heart when he came here. Him and me was at quarter's store same time, getting kitted out, and when we got back to the billet, and Jock changed his kilt for a pair of trousers, he broke down, talked about deserting, and trying to join the Yanks. He didn't brighten up till the day after, when he was took suddenly ill and sent to hospital. I got a letter from him—says it's a bit more like the real thing being in hospital uniform.

"Will it do now, Corp., this blessed floor?"

There is as little joy in overseeing his floor-scrubbing as in the doing of it, but it is necessary to point out that here and there are oases of dirt. It is duly pointed out, "necessary action" in the name of the same cause which actuates highly placed officers correcting the errors of those below them in the hierarchy; but that is no comfort to Tich, and he falls to his drudgery drying up the springs of happy reflection.

The next time I met him he was in the company of Pudden and Stella in the Soldiers' Club, and the proceedings were graced by the presence of the Vicar of Seaside. Neatly dressed girls handed about penny cups of sugarless coffee, and as I imbibed mine slowly and without relish, Tich left his chums and joined me.

"Let 'em talk to the girls if they like," he said, "I'm as fond of the lasses as anybody, but I expect those girls would as lief talk to a civvy as to us, in this uniform. It's not the same, Corp., after having been in the line. I can't keep saying to people, 'I've been transferred you know, but I was in the Cockerells once.' It's too much like saying, 'I've seen better days.' I'm fed up, Corp."

"We've got to stick it, you know, Tich."

"Lord! Did you think? I say, Corp., I ain't fed up with

the *war*. It's the blessed come-down that worries me. After being in the line, you know."

"You don't like Seaside?"

"Like it? It has only one advantage—You can go in the pictures 'arf-price. I go Friday, Saturday, Sunday and Monday, and then I'm spent up come next pay-day. But what's the good of the pictures? I get interested in the picture, and all that, and unless it's a war picture, I get fancying there isn't a war and I live in a world of civvies. Then the picture ends, and I'm in Seaside after all, and in a sort of uniform. Course, I'd sooner have peace than war, but if there *is* a war, I want to be in the line. Get me?

"Pay-day! Even pay-day isn't the same now. In France it *was* a day. We used to spend every penny because you might get blown up next day, and it'd break a feller's heart to be blown up with some unspent pay in his pocket. There's no fun about pay-day when you're safe."

"But you'll appreciate pay-day when peace comes and you're a civilian again."

"That's different. What I mean to say, there's a war, and it's no consolation to me to know I'm safe out of it. I can't ever forget that I am home-service only, in a non-fighting corps. And I used to be in the fighting Cockerells. I did!"

LONDON POST GRADUATE SCHOOL

A MOVEMENT has been started in England for the establishment of a big post-graduate medical school in London, a school which, it is hoped, will appeal to the medical men of the Empire.

Good luck to the scheme, say we.

Too long have Berlin and Vienna been the Meccas of our cis-Atlantic medical brethren, seeking more knowledge. Why should not Old London, with its immense wealth of clinical material, be the best centre in the world for post-graduate work? It well be, if enough attraction is created in that metropolis and sufficient dynamic is accorded from Britain's Dominions and Colonies.

Every part of the Empire ought to be heard from and a strong sentiment created in favor of this big school.

Another case of "Wake up England."

Let every Medical Society in the Empire speak out.

DENTAL DISEASE IN THE YOUNG

Jas. Morris, L.D.S., in *The Lancet*, says that as absolute knowledge of the ultimate cause of dental disease is not available, we may assume that some of the etiologic factors are:

1. That the disease is caused by over-feeding and meals between meals. 2. By too much manufactured sugar or sweets which exhaust the salivary glands and are the equivalent of pre-digested carbohydrates. These were not meant to be pre-digested but to be well chewed. 3. By finely milled flours in biscuits and other artificial foods. 4. By too much milk after teething, milk being designed chemically and physically for the toothless. 5. By bed-time meals, which leave the mouth unclean while the salivary glands are at rest. 6. By foods requiring too little mastication, and, therefore, too little salivation. 7. By the comparative futility of the toothbrush.

BIRTH CONTROL

Quillian, of Atlanta, replying to the question—How may I prevent conception? usually responds: "If you don't want to get seasick, then don't go to sea."

There are, he continues, many conditions wherein the physician's obligation is to furnish scientific knowledge which may prevent misery, vice and crime. "I believe that the greatest gift God ever gave to woman is her power to become a mother, and I have no patience with, nor sympathy for that woman who deliberately stultifies her womanhood. When birth control has become universal we will require another propaganda for voluntary motherhood. It needs to be the style and fashion for women to have fine children. This also should be a reform movement, and then we may have fewer, but a stronger and more enduring population.

THE THYMUS

Nathan B. Eddy, Lecturer in Physiology, McGill, in a paper on "The Role of the Thymus Gland in Exophthalmic Goitre," in the *Journal of the Canadian Medical Association*, concludes that there is a connection between the thymus gland and exophthalmic goitre, but what the nature of that connection is has not yet been discovered. Possibly the thymus acts independently of the thyroid in causing Basedow's disease; excited to hyperplasia and hypersecretion by external influences, it causes the group of symptoms that constitute this disease. Possibly because of this independent relationship it becomes hyperactive as the result of increased activity of the thyroid, adding its harmful influence to that exerted by the abnormally functioning thyroid; or its hyperplasia and hypersecretion may be the result of an effort to render harmless the toxic products of the thyroid. Another conception of the etiology of Graves' disease has been suggested by Crile: That neither the thyroid nor thymus is primarily at fault, but that there is a third cause—unknown—and that the changes observed in these glands and the symptoms attributed to alteration in their function are the result of the operation of this unknown factor. An array of facts can be marshalled in support of each of the hypotheses mentioned, all waiting for the discovery that will harmonize them and make clear present apparent contradictions.

THE TREATMENT OF FOCAL INFECTIONS

Capt. Alonzo Milton Nodine contributes to *Dental Cosmos* a fine article on the treatment of focal infections. Of late, so much is being said and written on the subject, we quote from the paper:

In those cases of gingival irritation from whatever cause in which there is bone absorption and the formation of pyorrhea or pus pockets or food pockets,

First: Give the mouth a superficial cleansing.

Second: Inject a novocaine solution in the gums of one affected side.

Third: Incise all loose gum down to the bone, eliminating the pockets.

Fourth: Curette all diseased tissue between and around the teeth.

Fifth: Smooth all necrotic and semi-necrotic bone, and all sharp bony septa and ragged alveoli.

Sixth: Flush out the mouth with a normal saline, chloramin, or iodine solution.

Seventh: Paint the wounded gum surface with a 5 per cent. to 10 per cent. iodine solution.

Eighth: Give the patient two to three grains of calomel or cascara, followed by a saline cathartic in the morning.

Ninth: Instruct the patient to gently brush the gums and teeth after the second or third day, with a preparation of one part alcohol, one part vinegar, and eight parts water.

Tenth: On the third or fourth day, scale and polish the teeth.

Eleventh: Paint these gums every other day with iodine.

Twelfth: After the gums heal up and pink, the patient should keep up the treatment of the gums with a stiff brush, brushing the gums over the teeth.

Second: Infected Areas.

The second part of this paper has to do with infected teeth and infected areas.

These infections may be divided into three classes: (1) Exposed and infected pulps. (2) Chronic apical infections. (3) Acute apical infections.

Those who have used the X-ray extensively, not spasmodically, and have had the courage to accept and act on its findings, have found that a large percentage—as high as 95 per cent.—of the teeth whose pulps have been devitalized and the attempts made to fill the canals have incomplete or no root-canal fillings; 75 to 80 per cent. of these teeth have apical abscesses or apical infections radiographically discernible.

Of the 5 per cent. of those teeth whose root-canal fillings do reach the apex, a large percentage will yield bacterial cultures.

Of the 15 to 25 per cent. of the teeth which do not radio-

graphically show bone destruction at the apex, there are a number about the roots of which, owing to super-imposition of bone densities one upon the other, the radiograph will not reveal bone destruction, although the destruction may be there. Furthermore, of this 15 to 25 per cent. which do not show bone destruction, there are a large number—if not the entire number as I have come to believe, and this belief is supported by the published evidence of a number of men and extensive clinical observations—which are infected and which contribute their quota of systemic infections.

I am convinced and firmly believe that less than 1 per cent. of all teeth upon which root-canal work has been attempted are safe teeth—teeth which are a benefit and not a menace.

(1) If these statements are true—and the evidence certainly is convincing to me that they are—it is dangerous to remove the pulps of teeth in the army dental service. As the difficulty of filling multi-rooted teeth is much greater than single-rooted teeth as a rule, I am firmly convinced that the attempt should not be made to fill teeth whose pulps have become exposed, either accidentally or from decay, or to fill those teeth whose pulps have been devitalized by pathological process.

(2) Further, in addition to the foregoing reasons, it seems a dangerous practice in army dental service to devitalize teeth with arsenic, which may be sealed in for an indefinite period, owing to the impossibility of the men receiving dental attention at the proper time, with the result that absorption of the arsenic may, by the time a man receives dental attention, have destroyed the pericemental membrane as well as the bone at the apex to a greater or less extent, necessitating the extraction of the tooth.

(3) The difficulty of maintaining aseptic conditions in order to fill simple and easily filled root-canals in army dental service is so great that it may be said to be prohibitive.

(4) The time taken to properly fill root-canals is so great that were it possible to do so, many absolutely safe and savable teeth would be neglected for the sake of one tooth, which, when filled under the best conditions, is an uncertain quantity. Therefore, it is perhaps in most cases, if not always, a dangerous proceeding. I consider it the safe, conservative practice to remove all such teeth.

With regard to abscessed teeth, either chronic or acute, there remains no doubt in my mind that all such teeth should be removed, for experience and the radiograph have truly convinced me that few, if any, of such teeth are ever permanently cured by medicinal means. When they are apparently cured, they still remain a latent source of danger, because the apex has become infected and denuded, leaving a space about the apex which is liable to infection and about which the bone does not regenerate. The almost inevitable consequence of this is that a granuloma is formed, which slowly or rapidly enlarges, producing absorption of the bone and continuing to be a focus for systemic infection.

I have apparently painted an almost hopeless situation, and in many cases the situation is as hopeless as I have painted it, but we have an alternative in a simple operation of root resection which I shall describe later.

When it comes to broken-down roots and badly infected teeth, the only course open to us is to extract them and then remove with curettes the granuloma and all the diseased bone. Second, in most cases all that is necessary is to remove the granuloma, paint the cavity with iodine, and pack with iodoform gauze for three or four or more sittings. But there are a number of times when it is necessary to remove the outer plate of alveolar bone, cut away the gum, and make a shallow cavity; it is also unquestionably the better surgical practice to pack these cases until granulation tissue has begun to form. In my personal experience, covering thousands of extractions both in civil and military practice, I have never regretted packing a socket or wound after extraction, but I have very frequently regretted not having done so.

ROOT RESECTION.

Root resection is the removal of a section of a root; root amputation is the removal of the whole or larger part of a root. These terms are neither arbitrary nor absolute, but quite accurately differentiate the two operations.

From anatomical considerations and accessibility, the upper and lower incisors are the teeth upon whose roots resection may be performed with least difficulty. They are, therefore, the ones recommended to be selected for root resection by those who are just taking up this work.

Resection of the upper and lower canines is a little more difficult; the upper second bicuspid and lower bicuspids are next in order, with due regard and care for the maxillary sinus and mental foramen, while the upper first bicuspids, the upper first molars, the lower first and second molars, and the upper second molars range in difficulty in the order named. Then follow the upper and lower third molars, whose roots may be resected only under the most favorable conditions, and are therefore not suggested for this operation.

It is well to make and study cross sections of the jaws of a dried skull in the region of all these teeth. By this means a good idea of the anatomy may be gained, as well as a knowledge of the thickness of the bone about the teeth upon which this operation is performed.

First fill the root-canals as far as possible with gutta-percha, and then procure a good radiograph to show the following conditions: How far the root-canals have been filled; the extent of the infection, and the size of the granuloma or cyst; or, to indicate the location of the perforation, also the relation of the root or roots to be resected to the other teeth and to any other important anatomic structure.

Conduction or infiltration anesthesia with novocaine and suprarenin is pre-eminently the anesthesia for this operation. Governed by local conditions, in the upper anterior teeth, centrals, and laterals, infiltration anesthesia or the infra-orbital injection in conjunction with an incisal injection may be used; on the upper canines and bicuspids, infiltration or the infra-orbital injection, or locally on the palatal side of each root, and sometimes a tuberosity injection in conjunction with these, should be used. For the lower incisors, infiltration or a mental injection on both sides, or a mandibular injection on one side and a mental on the other, should be employed.

Nervous patients may be given two bromural tablets from twenty minutes to half an hour before the injection.

ANAL FISSURES

Dr. Charles J. Drueck, Chicago, writes in *The Medical Standard* on anal fissures. His principles of treatment are rest and drainage. The bowels should be kept open by a carefully controlled diet or with enemas of olive oil or glycerine suppositories. Either of these administered a little before the usual time of defecation will soften the surface of the fecal mass and assist in its easy evacuation. Laxatives should be used only exceptionally and guardedly. Salines, with their liquid stools, are very irritating, as are also the resinous cathartics—aloes, gamboge, podophylin—and are contra-indicated. In recent fissures, before the wound edges are thickened or undermined, or before pus borrowing has occurred, spray the ulcer with 4 per cent. cocaine in 1 in 1000 adrenalin chloride solution, and allow to rest five minutes. A conical, fenestrated speculum, is now carefully inserted with the shutter over the fistula. The shutter is withdrawn and the speculum gradually opened, bringing the fissure well into view. The ulcer is now sprayed with cocaine if it has not been reached previously, and then painted with silver nitrate solution, 20 grams to the ounce, or with pure ichthyol.

To avoid spasm of the sphincter (which sometimes occurs), smear promptly with ung. stramoni and ung. belladonnae, equal parts. In well selected cases cure is accomplished in two to four weeks, with only a few treatments. If not obtained within this time surgical treatment is indicated, as is called for when the sphincters are hypertrophied and spasmodically contracted or the ulcer is deep with indurated or undermined edges, or the sentinel pile has developed, or the muscle wall exposed.

If the operation is to be done under local anesthesia, place the patient in the Sim's position after being properly prepared. Use exaggerated lithotomy position if a general anesthetic is decided upon. A Sim's speculum is inserted and the fissure brought into view. Sinuses burrowing under the mucous membrane are sought with a probe, and widely opened. The thickened and undermined edges are trimmed flat and the fissure incised at its base down to the muscle wall, bringing the wound

well out on to the skin to facilitate drainage. The sentinel pile, if present, is carefully included in the parts cut away, and also any papilla or small polypoid growths at the upper end of the fissure which might fall into the rent and hold the wound apart. Exuberant granulations should be curreted away. The wound is packed with gauze in layers. The upper layers are removed in twelve or twenty-four hours; but the lower layers are left until after the bowels are evacuated, to prevent infection of the field. The upper layers of gauze are easily removed, but granulation and blood clots entangle the lower layers and cause pain. This suffering may be lessened by soaking the adherent gauze with warm saline or peroxide solution. Wash wound with a mild antiseptic solution each day after the bowels have moved until healing has occurred—usually three weeks. During these dressings the edges must be carefully kept open until the surface and upper end of the wound is healed, that drainage may be freely provided. Preferably keep patient in bed a day or two. Movements should be kept soft and evacuations free. Patient should take a warm antiseptic sitz bath after each defecation. Any temporary incontinence disappears as the wound heals. If healing does not occur do a Wassermann.

BUSINESS METHODS

The practice of medicine is rightly in the hands of men who by education and experience are specially qualified to follow the medical profession, and the demand on a doctor's time usually prevents him from devoting the necessary attention to the installation and maintenance of an adequate system of book-keeping, with the result that medical practitioners are often seriously concerned as to their business standing, the amount of their liabilities, outstanding accounts, operating costs and other items which enter into the financial end of the profession. Even if doctors had the necessary time to give to their books and records, there are comparatively few medical men who have the requisite knowledge to install and maintain such records as will furnish them speedily, and with a minimum amount of trouble, such information as is necessary to enable them to obtain an accurate

reflection of their financial condition, and since accountancy has now been elevated to the professional plane, it is a wise policy for a master of the medical profession to call in an expert in the accounting profession to advise him on an accounting system and practice and to maintain in operation the routine which will yield complete and quick returns.

With the revolutionary changes in accounting methods which have taken place during the last few years, it has become a comparatively simple matter to extract from a few simple, but scientific records valuable and essential information which could only be obtained from antiquated and effete systems of accounting at the expense of great labor or "hit or miss" methods.

No progressive practitioner can, in these days, afford to maintain any system of accounting which does not furnish him at any required period a complete statement of his liabilities, assets, and such costs as are vital to the conduct of business. Most doctors realize this, but do not see their way to such an expenditure as would be involved by the employment of a book-keeper, but if they can be assured that an efficient accounting service can be installed and maintained at an expense considerably less than the cost of a full-time book-keeper, they are usually interested and eventually are numbered among the satisfied clients.

DREW IN HIS HORNS

Andrew Bunk Ether-Gas, who recently graduated was an awfully busy man. He used to tell his confreres (and some of his patients, we fear) that he made 87 calls in one day. He has worn out nine autos in as many years. His receipts averaged 10 M. per year—until he heard of the income tax. His confreres and patients do not hear any more as to income. He has now learned that "Silence is Golden," and that the men who are making ten thousand a year, and they are derned few in his village (not over 48 miles from Hamilton) never breathe it.

CANADIAN MEDICAL ASSOCIATION

The fifty-first annual meeting of the Canadian Medical Association will be held in Vancouver, B.C., on June 22nd to 25th, 1920. President, Dr. S. G. Grondin, Quebec; President Elect, Dr. R. E. McKechnie; Acting General Secretary, Dr. J. W. Scane, Montreal. Local Secretary, Dr. W. A. Clarke, Birks Building, Vancouver, B.C.

At the same time the Canadian Public Health Association, the Canadian Association for the Prevention of Tuberculosis, the Canadian Committee on Mental Hygiene, the National Committee for Combating Veneral Diseases, and the British Columbia Hospital Association will hold their conventions.

The Canadian Medical Association meeting is expected to be a particularly good one, with many interesting papers from the profession, not only throughout Canada, but also from the United States and Great Britain.

It is pointed out that this trip may be made a particularly pleasant holiday, especially in view of the alternate routes that may be used for the return journey.

MEDICAL CLINIC TO BE FOUNDED IN KINGSTON

Some weeks ago incorporation was made of the Kingston Clinical Association, Limited, with a share capital of $100,000. The purpose of the Association is to conduct Medical Clinics which will supply a standardized systematic examination. Specialists in each branch of Medicine will be in charge and all modern science equipment will be used. The Clinic will doubtless have the effect of making Kingston a more important medical centre than it is at present.

Personals

DR. C. K. CLARKE TO RESIGN

Dr. C. K. Clarke, Dean of the Faculty of Medicine at the University of Toronto, has resigned his position in order to devote himself to the work of the Canadian National Committee for Mental Hygiene, of which he is medical director. His resignation will not take effect until July.

Dr. Clarke, since he graduated from the University of Toronto in 1878, has been assistant superintendent of the Hamilton Asylum, superintendent of the Rockwood Asylum for the Insane, and superintendent of the Toronto Hospital for the Insane, and superintendent of the Toronto General Hospital.

Dr. H. I. Kinsey has opened an office at 415 Bloor Street West and will devote special attention to diseases of the chest.

Dr. D. Fuller McKinley, 863 College Street, formerly of West China (late of C.A.M.C.), has located in Toronto and will devote his attention to eye, ear, nose and throat work, including bronchoscopy.

Dr. Edna M. Guest wishes to announce to the profession that she is resuming practice at 467 Spadina Avenue by devoting her attention to gynecology, including venereal diseases and obstetrics.

The Physician's Library

Handbook of Anesthetics, by J. Stuart Ross, M.B., Ch.B., F.R.C.S.E., with an introduction by Hy. Alexis Thomson, C.M.G., M.D., F.R.C.S.E., and chapters upon *Local and Spinal Anesthesia,* by Wm. Quarry Wood, M.D., F.R.C.S.E., and upon *Intratracheal Anesthesia,* by H. Torrance Thomson, M.D., F.R.C.S.E. Edinburgh: E. & S. Livingstone, 17 Teviot Place. 1919. Price 7s. 6d. net.

Those familiar with the art of anesthesia cannot but recognize that Dr. Ross has given a most valuable contribution to the profession. It is a most excellent résumé of present-day knowledge, set forth in the simplest and most comprehensive manner. All the scientific details, as well as the personal equation in anesthesia are presented in a very practical and concise way.

No better handbook on anesthesia has been brought to our attention, and it is a work one can recommend highly to the physician and student.

Nervous and Mental Diseases. By Archibald Church, M.D., and Frederick Peterson, M.D. With 350 illustrations. Ninth edition, thoroughly revised. Price $7.00 net. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. 1919.

The ninth edition of a work on practical medicine admonishes the Reviewer that the medical public has passed its favorable judgment upon it. His task, therefore, is simply to indicate advances and improvements. The authors seem to consult members of the profession to learn their needs, and then endeavor to supply them. They are wise enough too to

resist the temptation to show themselves *au courant* by the advocacy of radical ideas and fanciful, ill-digested theories untested by ample experience. "The subjects of general paresis and traumatic insanity have been re-written." These sections are brief but comprehensive and commendable. The book is frankly for the student and for the general practitioner, and is essentially clinical.

The Physical Basis of Heredity. By THOMAS HUNT MORGAN, Professor of Experimental Zoology in Columbia University. 117 illustrations. Philadelphia and London: The J. B. Lippincott Company.

Mendel discovered the two fundamental principles of heredity—segregation and independent assortment. Since 1900 four others have been added—linkage, the linear order of the genes, interference, and the limitation of the linkage groups. These postulates have been established by deductions from quantitive data, and, barring the 6th, can be stated independently of the chromosomal mechanism, though the necessary outcome of it. These postulates are discussed along with allied topics—parthogenesis, mutation. The monograph is well illustrated, and stands as a fine contribution to experimental biology.

A Text Book of Human Physiology including a section on *Physiologic Apparatus* by ALBERT P. BRUBAKER, A.M., M.D., LL.D., Professor of Physiology and Medical Jurisprudence in the Jefferson Medical College; formerly Professor of Physiology in the Pennsylvania College of Dental Surgery, etc., etc. Sixth edition, revised and enlarged, with 356 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $4.25 net.

This is the latest edition of a well known and popular textbook on Physiology. It has been brought up to date with the recent work in physiological investigation. Paragraphs, relat-

ing to the mechanism by which changes in the arterial pressure are brought about, to the mechanism of carbohydrate metabolism and to physiological actions of the spinal cord and spinal nerves, have been added. It meets adequately the needs of the medical student and the practitioner who wishes to keep in touch with the present knowledge of physiology.

A Text-Book of Physiology. By Martin Flack, C.B.E., M.B., B.Ch. (Oxon.), and Leonard Hill, M.B., F.R.S. Illustrated. London: Edward Arnold, 41-43 Maddox St. 1919. Price, 25s. net.

Among the numerous recent works on physiology this book would appear to rank well up. The wonderful impetus given to the study of physiology during the great war, and many of the results obtained have been embodied in this volume. While the work is primarily intended for students, the practitioner who graduated ten or more years ago will find much that is new to him. The chapters on hemolysis and immunity, methods of determining respiratory exchange and mechanical factors of digestion; the sections on metabolism—general and special, and on tissue of motion; the book on internal secretion and on the nervous system will well repay reading by every medical man who wishes to keep up to date. The book is well illustrated, and the pictures descriptive of the many experiments clear, and their significance easily grasped.

Commercial Department

"PRESCRIPTION 1920"

With this number we are beginning the publication of a series of advertisements for the Davis & Lawrence Company, of Montreal and New York, concerning their new preparation of the Hypophosphite Salts, which is being supplied under the agreeable name of "Prescription 1920."

"Prescription 1920" is supplied in two forms, "with sugar" (the usual syrup of hypophosphites) and "without sugar" (the latter for use in cases such as diabetes, where sugar is contra-indicated).

Without doubt these preparations, which represent an advance in hypophosphite medication, will be found of much service to the profession.

The series of advertisements (the first of which appears in this issue) refer to the purposes for which "Prescription 1920" will be mainly prescribed under the following headings. "Influenza and Pneumonia." "Nervous Diseases." "Pulmonary Diseases." "Cutaneous Disorders," "General Debility," and "The Child."

To acquaint the physicians of Canada with "Prescription 1920," a sample of each form "with sugar" and "without sugar" has been sent to every doctor in the Dominion, and stocks of the preparation have been placed in the leading stores in practically every town, so that doctors may now prescribe same with confidence that their prescription can be filled without delay.

Any physician who has not received these samples can obtain same by notifying The Davis & Lawrence Company, 356 St. Antoine Street, MONTREAL, P.Q.

AN IDEAL RESORT FOR CONVALESCENT PATIENTS

Physicians have frequent opportunities of referring those convalescing from illness to a resort where they can quickly recover their old-time vigor and enjoy an almost ideal climate, 2,500 feet above sea level. Such a resort is Virginia Hot Springs, just one night out of New York. The management have spent a huge sum of money on this choice spot in "Old Virginny," and are anxious that the Canadian medical profession should continue to refer cases there, as they have done in years gone by. The Homestead Hotel is one of the handsomest houses in America. It is built of solid brick, containing 500 guest rooms, with many parlor suites and 300 private baths. It is spacious, dignified, quiet and restful, with magnificent mountain views on every side. It is no exaggeration to say that Hot Springs means the Homestead Hotel. The Company owns 5,000 acres surrounding the hotel, so that physicians can understand that their patients have every opportunity of enjoying outdoor life and regaining thereby their normal strength.

The dominant factor making Hot Springs world-famous is the cure in which the climate as well as the water assist. The waters are conducted by gravity to the bathhouse and distributed fresh from the ground to the bathing apartments on different floors without loss of heat or its increase by artificial means, and fully charged with all their gases and other health-giving qualities. At none of the celebrated places in Europe, and at no other springs in America, is the temperature prescribed for hot baths that at which the water actually emerges from the earth in the natural springs.

The springs are beneficial, not only for bathing, but for drinking. Besides the hot springs, the effects of which as drinking waters are pronounced, there are magnesia, sulphur, and soda springs within the grounds, and alum water from a spring not far distant. The water from the soda spring comes strong and clear from the ground at a uniform temperature of 74 degrees. Physicians should address for full information Christian S. Andersen, Esq.

MISCELLANEOUS

ABSTRACTS FROM LETTERS BASED ON CLINICAL EXPERIENCE BY PRACTITIONERS

In Dysentery—Dr. M., of Peoria, Ill., writes: "Have given your Laxol a thorough trial in different diseases, and I wish to express my satisfaction with the remedy. Laxol is a wonderful preparation of Castor Oil. I have proved it in a case of Dysentery, the only medicine, and used internally at the time. Hot, boiled milk, frequently sipped, for nourishment. Patient made a rapid and satisfactory recovery."

In Indigestion—Dr. H., of Weston, O., writes: "Had a case of a child suffering with indigestion and vomiting. Bowels did not move in forty-eight hours. I gave it one-half teaspoonful of Laxol every two hours, until two doses were taken, and the bowels moved before the time for the third dose. It had been vomiting, and could not retain anything, not even water, on its stomach, but it retained the Laxol, and it worked like a charm. Made a rapid and satisfactory recovery."

In Acute Gastritis—Dr. P., of Independence, W. Va., writes: "I had a case of Acute Gastritis in a child of twenty months old, in which a purgative was indicated. I gave small doses of calomel and sodium, but nothing would stay on her stomach, until I tried Laxol. This seemed to quiet the child, and it acted nicely. I have not had a case, young or old, that would not retain it."

In Surgical Practice—Dr. H., Taunton, Mass., writes: "I have used Laxol for years as a cathartic before abdominal operation, with highly satisfactory results."

In Obstetrics—Dr. P., of New York City, writes: "In my obstetric practice, I could not get along without Laxol, as there are many women, especially the primipara, who have a decided objection to the ordinary Oleum Ricini, but find Laxol very pleasant to take. It makes things so much easier for the doctor, you know. I have every reason to consider you as a benefactor."

AMERICAN MEDICAL EDITORS' ASSOCIATION

The fifty-first annual meeting of the American Medical Editors' Association will be held at the Grunewald Hotel, New Orleans, La., on Monday and Tuesday, April 26th and 27th (during the week of the A.M.A. Convention), under the Presidency of Dr. Seale Harris, Editor of the *Southern Medical Journal*. A most interesting programme has been arranged and every doctor, even remotely interested in medical journalism, will find it to his advantage to attend. It is advisable to make early reservation of rooms to assure accommodations.

ABBOTT LABORATORIES' NEW CANADIAN ADDRESS

The Abbott Laboratories on April 1st moved their Canadian branch to larger quarters, and are now located at number 57 Colborne Street, Toronto. This well-known firm found this to be necessary on account of a rapidly increasing trade all over the Dominion. At this address physicians will find a splendid stock of "Abbott" preparations, so that in case for any reason their druggist has not in stock any particular article, it can be at once obtained from Mr. Fillippi, "Abbott's" genial representative for Canada.

Dr. Katherine L. Storm, of Philadelphia, is announcing the removal of her offices from 1541 to 1701 Diamond Street, Philadelphia. The new building which Dr. Storm has purchased has treble the capacity of her former building, and is being equipped with every facility for quick and exact work.

FARMERS IN POLITICS

The awakening of the farmer to a sense of his political responsibilities and opportunities is a sign of the times in Canada. It is now realized that the agriculturist is capable of forming his own opinions on the important questions of the day. President Wilson pointed out some time ago that "a western Senator often is more useful than his eastern colleague because sometimes he chews Virginia leaf." Chewing tobacco helps men to use their brains.

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Editorials

OUR PROFESSION BEING BEDEVILLED

MR. FLAVELLE, chairman of the License Commissioners, reports that ten per cent. of the profession are dispensing liquor so freely as to " bedevil " the whole medical profession.

This is an aspersion, if true, upon our profession. We hope the percentage of such men is not as large as Mr. Flavelle states.

Dr. Forbes Godfrey, M.P.P., suggests a remedy: —that no physician be allowed to charge for a liquor prescription. If it is proposed by the Government to continue to force doctors to act as bartenders, we would limit the amount prescribed to eight ounces.

There is no doubt that medical men are prescribing one hundred times more liquor since the bartending was, without permission, thrust upon them

than they did before. It had been a matter of comment how tremendously the prescribing of whiskey and brandy had fallen off during the past thirty years, preceding this new departure. But with the advent of this unsatisfactory and most undignified arrangement, never in the annals of medical practice has there been such an amount of prescribing of stimulants. Prior to this, physicians seldom or never prescribed over a few ounces, at once. Now, it would appear from the land-office business the Government dispensaries are doing, physicians are dealing the stuff out with a prodigal liberality.

The whole question bristles with difficulties; but we would suggest as a way out that the medical profession at the meetings of the Canadian Medical and Ontario Medical Associations, and of all county societies thoroughly discuss the matter and endeavor to remove the stigma that under present conditions attaches to the prescribing of liquor by the medical fraternity.

FLU IN THE COUNTRY

FROM the writer's observations and experience the recent outbreak of influenza was worse in the country than in the city, greater in its incidence, proportionately, to the population, more severe as to morbidity, possibly lower in its mortality. We trust our Provincial Medical Health Department will be able to ascertain, when reports are all in,

whether these are in accordance with facts in whole or in part.

Reports from the soldiers' cantonments in the United States of the 1918-19 epidemic went to show that the men from the country districts were less immune to influenza than their comrades from the city. The latter had, to a marked extent, developed an immunity to the bacteria of crowds.

In the farming section visited by the writer he noted that the country folk seemed more scared of the disease than their city cousins. The latter, like the Germans, seem to acquire a courage when fighting a common enemy in mass formation. Again, it was noted that the sick country folk seemed more afraid to open their bedroom windows than the sick in the city.

Help was short in the country; farmers felt obliged to " keep going " as long as possible doing the necessary chores—attendance on the stock, etc. For often they continued working, even when the disease was upon them, which made their attack more severe and more dangerous, and prolonged their convalescence.

The absence of house-toilets and other city sanitary appliances, such as bathtubs, hot and cold running water, etc., proved also a handicap. Lack of nurses and nursing equipment, such as bedpans, made matters worse.

In spite of all these drawbacks, it was good to see the fine manifestation of neighborliness—in lend-

ing a helping hand in the nursing, crude as it was often—in the housekeeping and in the assistance with the work at the stables and barns; in the shopping, etc., etc.

We hope when the next epidemic appears, in sixty-six weeks' time, the farming community will be better organized to meet the enemy.

MENTAL HYGIENE AND THE MEDICAL PROFESSION

MUCH publicity has been given of late in the daily press to the mental hygiene movement. There have been presented to us startling facts concerning the prevalence of mental abnormality in Canada, the intimate relationship that exists between mental unfitness and many social problems, and finally we are told that little has been done in the Dominion to meet the situation adequately.

It would be a pity if the medical profession were to assume an attitude of indifference, because the problems of mental hygiene are largely problems of preventive medicine. Indeed, progress in this important field will be made impossible if medical men do not put their shoulders to the wheel and give the subject the support it deserves.

It is estimated that there are approximately 160,000 mental abnormals in the Dominion, and that of this number only some 20,000 odd are confined in hospitals for the insane. The remaining 140,000 contribute in no small measure to the popu-

lation of our jails, reformatories, lying-in hospitals for unmarried mothers, and to the population of our slums. In other words, the chief problem of mental abnormality lies outside the doors of mental hospitals, and is, therefore, the concern of the medical profession at large.

Is the average medical man in Canada properly trained to deal intelligently with cases of mental disease, mental deficiency, and psychopathic personalities? It must be admitted that, as a profession, we are woefully ignorant in connection with this whole domain of medicine. Perhaps the chief reason for this state of affairs lies in the fact that training in psychiatry in medical schools has been inefficient in the past. Our Canadian medical schools have given this subject about as much consideration as has been given to tropical diseases and other conditions that will be rarely encountered in practice.

The medical man has come to look upon mental conditions as something that is almost foreign to his work. In addition, he has often assumed the attitude that insanity is incurable and that his duties are at an end when dramatic and dangerous cases of mental disease are committed by him to institutions.

Those who are actively engaged in the mental hygiene movement tell us that a hopeless attitude is unjustified by the facts. They say that if cases are diagnosed early, and if appropriate treatment is inaugurated, that a considerable percentage can be restored to reasonable health and vigor. In this

regard mental disease seems to be in a similar position to that of tuberculosis. Experience has taught us that, if we delay making of a diagnosis of phthisis until the condition is far advanced, the prospect of a favorable issue is thereby prejudiced. It, therefore, seems prudent to apply to mental disease the same rational procedure as has been applied to tuberculosis and other physical ailments.

The whole point of this matter is the necessity of a changed attitude on the part of the profession toward mental disorders and the need of better instruction in medical schools.

It has been urged that in every populous community there is need for a psychopathic hospital. This hospital would receive voluntarily all cases of beginning mental disease and cases that are suspected to be such. The hospital would be utilized not only for treatment, but for observation and research. At the present time cases must be sent either to a hospital for insane, to jail, or in many cases are left at home and remain untreated.

The chief arguments in favor of the establishment of psychopathic hospitals have been summarized by the Mental Hygiene Committee of the New York State Charities Aid Association, as follows:—

"(*a*) Such a hospital is an integral part of a complete provincial hospital system, and without it the system goes lame.

"(*b*) Such a hospital will help check the present rapid increase in the number of the insane by heading off the stream at its source.

"(*c*) Such a hospital, by preventing and curing cases of mental disease in incipient and early stages, will prevent their becoming chronic insane patients, and will save the state the expense of continuous care of chronic cases for a long term of years in regular provincial hospitals.

"(*d*) This hospital, by receiving and caring for recent and acute cases of insanity, will diminsh the number annually committed to the other provincial hospitals, and so relieve the overcrowding in these hospitals."

It would be difficult in a few words to formulate a complete mental hygiene programme for Canada. The following, however, might be considered as important features of a sound policy:—(*a*) Establishment of mental clinics in connection with courts, hospitals and schools; (*b*) supervised immigration (this is necessary, since over 50 per cent. of the feeble-minded and insane in Canada have come from countries outside the Dominion); (*c*) establishment of psychopathic hospitals; (*d*) placing asylums for insane on the plane of modern scientific institutions with full scope for occupational therapy and other curative agencies; (*e*) establishment of training schools for mental defectives; (*f*) incorporation of special classes for backward, nervous, and peculiar children in connection with the primary school system; (*g*) better instruction in psychiatry in medical schools.

When once the aims of the mental hygiene movement are understood by the medical profession, whole-hearted support can be expected to ensue.

CANADIAN NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASES

THE first municipal committee of the Canadian National Council for Combating Venereal Diseases was organized in Toronto on March 24th, with the following officers:—Patron, His Worship Mayor Church; Hon. President, Mr. Justice Hodgins; President, Dr. F. W. Marlow; Vice-Presidents, Mr. A. E. S. Smythe, Dr. C. J. O. Hastings, Mrs. L. A. Hamilton, Rev. L. Minehan, and Mr. C. F. Paul; Hon. Treasurer, Dr. Albert H. Abbott; Secretary, Dr. H. C. Cruikshank; Members of the Executive, Mrs. Sidney Small, Mrs. A. D. Fisher, Dr. R. R. McClenahan, Dr. Gordon Bates, Miss F. E. Brown, Major Fred Smith, and Miss Pearce.

Mr. Justice Riddell, the National President, presiding at the meeting of this the first municipal committee to be organized in Canada, called attention to the seriousness of the venereal disease problem, and asked the co-operation of all Toronto citizens in the work of the National Council in Toronto.

The formation of the Toronto committee was coincident with the showing of "The End of the Road," a remarkable film-drama which is being shown throughout Canada under the auspices of the Canadian National Council for Combating Venereal Diseases. During five days' showing of this film in Toronto about 17,000 people attended meetings staged by the National Council at which

the film was shown. National Council speakers appeared at each meeting and gave short addresses of an educational character, in the course of which the opportunity was taken of briefly outlining the general scheme which the Dominion and Provincial Governments are combining to deal with the venereal disease problem in Canada. The first result of this propaganda work has been an increase in the number of venereally infected persons applying for treatment to both private physicians and clinics.

The National Council will first undertake to do general educational work of this type in order that people generally may become aware of the seriousness of venereal diseases as a public health problem, and in order to help render the Government treatment-schemes in various parts of the country effective. With this end in view it has been felt that as many persons as possible should become actual members of the organization. A two-dollar membership fee has, therefore, been established, and local committees are being formed in many cities throughout the country. Members of these committees will be kept supplied with up-to-date literature on the subject, and will be expected to do their part locally in the fight against venereal diseases.

It should be understood that the work of the Canadian National Council for Combating Venereal Diseases is not only propaganda. It is felt by the National Council Executive that as regards this particular problem their first duty is to inform the

public as to existing conditions. This must have the effect of helping in the success of the various treatment-schemes being undertaken by provincial health departments. The broader educational and social aspects of venereal diseases will be dealt with as the National Council is put on a better organized basis, and when a sufficient headquarters staff has been secured.

Canadian Journal of Medicine and Surgery

Toronto Canada

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Original Contributions

THE INDICATIONS FOR THE REMOVAL OF THE TONSIL*

J. H. McPhedran, M.B., Toronto.

It has seemed to me that if one is to approach this subject in an intelligent way there must be possessed a very definite knowledge of the Embryology, Anatomy, Histology, Physiology, Bacteriology, and Pathology of the Tonsil.

Embryology.

The tonsil arises late in foetal life from that part of the 2nd pharyngeal cleft which is left between the soft palate and the tongue. In the fourth month 8 or 10 isolated buds of hypoblast push out from this recess into the mesoblastic tissue in the well of the pharynx. These buds afterwards canaliculize, and form the crypts and glandular tissue of the tonsil. Follicles of lymphoid tissue—for the tonsil must be regarded as a lymphoid structure—begin to collect round these glandular buds in the last month of foetal life.

The tonsil is part of a great lymphoid system stationed along the alimentary canal. It reaches its fullest growth in youth, as is the case with lymphoid tissue generally. When active growth of the system is over, and especially in the years of decay it becomes markedly reduced in size. Also developed from the second pharyngeal cleft we have the pharyngeal and lingual tonsils, both collections of lymphoid tissues, the three tonsils forming a circum pharyngeal ring of lymphoid tissue of great physiological and pathological importance. The crypts, 12-18 in number, are formed of stratified epithelium continuous with that of the mouth.

* Read before the Academy of Medicine, Toronto.

The Anatomy.

Briefly the tonsil is situated opposite the angles of the jaw between the anterior and posterior pillars of the fauces and in relation externally with the constrictor muscle of the pharynx. The blood supply is very free—five arteries in all conveying blood to it.

The lymphatics communicate with those of the dorsum of the tongue, and pass to a node which lies near the angle of the jaw. They are entirely efferent.

Histology.

The tonsils are collections of lymphoid tissue collected into the nodules, besides being diffused over the whole organ; each nodule is a collection of lymphoid cells, and in the centre of each active mitoses occurs and is the cause of formation of the nodule; the epithelium of tonsil is infiltrated with lymph corpuscles and many wander into the free surface and become mingled with saliva as salivary corpuscle—the other tonsils show crypts and masses of lymphoid tissue similar in structure to those of the tonsil.

Physiology.

It may, I think, be safely premised that the tonsil has a function. After searching carefully the literature of the past ten years, one is still in a fog, for comparatively little has been written, and less established. Certain functions seem, however, to be accepted as established.

I. Mechanical.

That it acts as a bumper between palato glossus and palato pharyngeus and seems to hold the pillars in an advanced position in the pharynx.

II. Blood Forming.

That it is part of the great mass of lymphoid tissue of the body, and takes part in the blood formation.

III. Protective.

That as part of the pharyngeal ring of lymphoid tissue at the entrance of the pharynx it helps to prevent infection getting into the digestive and respiratory tracts and general system by arresting and destroying bacteria. That it has no internal secretion affecting the growth of the body. That it secretes no enzymes helping in the digestion of food. When one stops to consider that 70 per cent. of the white cells in the infant are lymphocytes is it any wonder that there is a large amount of lymphoid tissue, and can one deny that the tonsil has some part in the production of these cells? That this is a minor function seems likely, because the tonsil is only, after all, a small fraction of the mass of lymphoid tissue. When one comes to consider its protective functions, one finds many opinions and varied. When it is recalled that it is a mass of lymphoid tissue, that the lymphoid cells are considered phagocytic, (1) that they are migratory and wander through the epithelium of the crypts, and on into the mouth, and carry with them into the mouth bacteria and effete material, that this lymphoid tissue is further protected by epithelium which itself tends to keep out bacteria, (2) one must be impressed with the fact that the tonsil with the other parts of the pharyngeal lymphoid ring effects an important barrier against infection getting into the system. It would seem that the fact that the tonsil is so often diseased points to a continuous struggle against the entrance of bacteria to the system. That it often fails is not to be wondered at, when one considers the countless millions of bacteria continually entering and multiplying in the best of incubators—the mouth. It is largest, too, when this protective function is most needed, that is in the early years of life. That these organs are useless embryonic structures dangerous to the organism, as is asserted by extremists, seems unreasonable.

Bacteriology.

What organisms are mostly found in *chronically* diseased tonsils? Streptococci, always diplo-streptococci and staphylococci. (3) These, it is stated, only get into the lymphoid tissue

after destruction of the epithelium of the crypts, (4) i.e., ulceration and then penetration, although T.B. and anthrax have been found in tonsil with epithelium intact. Latterly a close connection has been observed between tonsillitis and poliomyelitis, tonsillitis and goitre.

What Then are the Idications for Tonsillectomy?

Having laid a good foundation in a thorough knowledge of the embryology, histology, anatomy, etc., of the tonsil, one is in a position to more intelligently consider this question. We must remember the time of fullest development of the tonsils, i.e., up to ten or twelve years of age, the time when cessation of function begins, about puberty. In seeking to form an opinion we must not forget that it has a function, that it is sometimes obviously, sometimes not so obviously diseased, sometimes, indeed, appearing normal, yet a menace. And just here let me say what can bear repeating *ad infinitum* that before this operation is decided upon, and for that matter before any operation is decided upon or at least done, the patient should be examined in the most thorough way possible to determine as far as may be the state of all the organs of the body, whether in a given instance the tonsil is the only organ diseased, whether if other structures are involved the fault lies in the tonsil, whether there is any concurrent and perhaps more serious disease in no wise dependent on the diseased tonsil. I believe that if this were more often done and all the facts collected and carefully weighed there would be fewer hasty conclusions and operations. I believe the physician, in referring his case for an opinion to a nose and throat specialist, should accompany that case, with a complete history with his findings in detail, and again that the nose and throat specialist should not operate till such history and examinations are complete. This is one way I would suggest for finding whether the tonsils should be removed, and the one I commend to physician and specialist alike, for it is too seldom done.

Many and varied opinions have been expressed as to when tonsils should be removed.

Pratt (5) writes that the tonsils and adenoids are only

troublesome vestigial organs, that they have no beneficial function, are disease-producing, and that we are better off without them, that tonsils and adenoids have more to do with T.B. infection of lymphatic glands of neck, larynx and lungs than all other sources; also that rheumatic fever, endocarditis, pulmonary gangrene, and other conditions have their origin in the tonsils.

Goodale (6) says: The indications for radical operation should be determined by pathological changes in the tonsils, which are actually a detriment to the individual, while simple hypertrophy may be sufficiently treated by tonsillectomy in children.

Wishart (7) says: I do not feel comfortable in permitting the enucleation of the tonsil in every child when operation appears to be called for, yet I have not been able to discover anything from the abundant literature which will show me the proper course to pursue.

Sheedy (8) writes that tonsils serve an important function, and should not be removed unless diseased so as not to carry on that function, then they no longer protect against bacteria.

St. Clair Thomson (9) covers the various condition demanding removal well when he says conditions demanding removal are:—

1. Any interference with respiration, night or day.
2. Threatened alteration of voice or articulation.
3. Eustachian catarrh or the presence of any middle ear affection.
4. Chronic enlargement of cervical glands.
5. Chronic lacunar tonsillitis or cheesy collections in the supra tonsillar fossa, or between tonsil and pillars.
6. If adenoids are present, and are to be operated on, opportunity should be seized to remove any decided tonsillar hypertrophy.
7. For attacks due to septic absorption through the tonsils or a chronic condition of ill-health, which can be attributed to infection through the tonsillar area.
8. Frequent attacks of tonsillitis.
9. Peritonsillar abscess.

If these conditions are established, then generally the tonsils should be removed. That is, in a word, when they are known to be the seat of chronic disease, with or without accompanying local or general disease. In determining this, physician and specialist must work together, and nothing should be left undone in view of the very off-hand manner in which this operation is too often viewed, to prevent on the one hand diseaseless tonsils being removed, and on the other hand diseased tonsils left untouched, for there are dangers in both procedures, and those of operation should not be accorded the familiarity that breeds contempt—that I fear in some quarters has become no small menace.

Let us as physicians be sure whether the tonsil is the chief or only offending organ, let us make sure of the condition of the gums, teeth, cheeks, etc., that the tonsils may be saved being bathed in bacteria-swarming secretions.

What Are the Indications Against Tonsillectomy?

Should tonsils be removed as a preventive measure in a child because it may develop a tonsillitis, a poleomyelitis, an arthritis, an endocarditis? No, I should say; for on the one hand it has not been proved that the tonsil is the only channel of entrance or infection, and on the other hand it has been proved that chorea, arthritis, endocarditis develop when tonsils are out.

(10) Should they be removed from a child because of one attack of tonsillitis? Again I say no. The tonsil should be given a chance to return to normal, and for determining this the tonsilloscope has been found of value.

(11) *They should not be removed*:—

1. During an acute attack.
2. From bleeders.
3. In diabetes.
4. In chronic deforming types of arthritis.
5. As a general rule not before the age of 15, solely because they are enlarged detritis seen in crypts.
6. In malignant disease and arterio sclerosis.

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GRADES IN MEDICAL QUALIFICATIONS

JOHN HUNTER, M.B., TORONTO.

METHODS, theories and traditions in medical, as in every other department of educational work, through the exigencies of war. have been thrown into the crucible of a criticism, super-heated by the intense, insatiable, and world-wide clamor for re-construction.

" Crowned heads " in the realms of education, like those in national life, and to whom faithful followers were ever ready to pay homage, have been deposed and have, in many cases, become objects of derision.

In this cataclysm almost as disastrous to much in our civilization as Noah's flood was to that of the ante-diluvian world, and from the effects of which, people are endeavoring, not only to extricate themselves, but also, through a bewildering experience, to re-construct a new civilization, is it any wonder that medicine, so vital a factor in the successful prosecution of the war, should be involved in this universal upheaval of methods, theories, and traditions, not only of bye-gone ages, but also of the first decades of the Twentieth Century?

Indisputable evidence exists everywhere, not only of the steady progress, but also of the gigantic strides being made in the science, and in the art of medicine. It is true, however, that in both of these, there remain vast unexplored fields, awaiting the tireless worker, and the man of genius, to exploit them.

The announcement of funds from the Rockefeller Foundation has given a most heartening impulse to the activities of those, who, for years, have been hoping to see very radical changes in medical education.

It has been stated in the press, that certain changes, *re* methods of teaching, etc., have been proposed, but so far no reference has been made, as to any change in regard to the grading of medical degrees, and of licenses to practise medicine.

To-day a degree from a Canadian University, and a license from a College of Physicians and Surgeons—in fact the latter alone suffices—legally qualify the young graduate to go out as a specialist in any, and in every department of medical work. He may not have performed an operation of any kind, and yet is permitted legally, to do any operation in surgery, no matter how difficult, and to acquire skill and experience at the risk of his patient's life. Standardization in medical degrees, as in teacher's certificates, would very largely eliminate the above anomalous conditions. Why should not medical degrees and licenses be standardized as 3rd, 2nd and 1st class certificates are, in the teaching profession? Each grade of qualification gives a certain standard of certificate.

Let us assume that our Canadian Universities, and Colleges of Physicians and Surgeons, instead of issuing degrees and licenses, that make no distinction in regard to the amount of knowledge, experience and skill one graduate may possess over another, were to establish grades in these, e.g., C. B. & A.

The C. standard would be that received by all graduates in medicine, and be a legal qualification throughout life. At the end of a period, say of five or ten years, any graduate could present himself for examination for the B. standard. B. would include all the fundamental subjects in the C. standard, plus an intimate knowledge of all the advancement in the science, and art of medicine in the five or ten-year period since graduation,

and also be a test of the acquisition of special knowledge, and of the necessary skill for any department of work the applicant wishes to engage in.—Status of a specialist.

A. would embrace C. and B. standards, plus the progress of the second period since graduation, and also furnish evidence of having, through research work, added something to the science of medicine, or improved its art by evolving a more perfect technique for some operation.—Status of a professor.

It may doubtless be as true in medicine, as in teaching, that high qualifications alone do not assure efficiency, but in most instances efficiency goes hand-in-hand with high qualifications. The present system is also a veritable handicap, in that it withholds all inspiration from our graduates of attaining any higher distinctions in degrees, titles, or licenses in Canada through the prosecution of post-graduate work. Were there given, by our Canadian Universities and Colleges of Physicians and Surgeons—as there are given by like bodies in other countries—standardized degrees, titles and licenses distinctive of more experience, greater skill and broader culture, what an inspiration it would be to the industrious and ambitious graduates, and how much it would do to elevate the status of medicine in Canada by thus standardizing our medical degrees, titles and licenses.

Society Proceedings

TORONTO ACADEMY OF MEDICINE

The Public Health Section of the Toronto Academy held its final meeting on the 27th of April, devoting the evening to Venereal Diseases. Dr. MacClennahan, Head of the Venereal Division of the Provincial Board of Health, opened by saying that the Dominion Government had appropriated $200,000 for public health campaign. The apportionment to Ontario is $57,500; and the province will contribute an equal amount. $10,000 of the federal grant goes to the Canadian Society for Combatting Venereal Diseases. For two years the provincial health officers had been trying to break the salvarsan monopoly, and after two years' effort they had been finally successful, and salvarsan manufactured under their own jurisdiction would be available. The Board was acting under the Venereal Disease Act of 1918. The Act and Regulations were being amended this year.

Since January, 1920, a separate branch of the Provincial Health Department had been formed for the combatting of Venereal Diseases. Their aim was the suppression of these maladies. They proposed to proceed along two lines:—(1) Education; (2) Diagnosis and Treatment. Every doctor and senior medical student in the province had been supplied with the brochure by Stokes of the Mayo Clinic. This had been followed by a circular letter to all physicians; giving suggestions and inviting co-operation. Letters had also been sent to the Ontario Medical and County Associations, asking for their help. Besides circular letters had been sent to druggists, dentists and senior dental students; those to druggists bore on the question of prescribing venereal remedies, and advised them to refer purchasers of such to medical men for treatment. To this last

appeal the department had received several hundred answers, favorable. The Colleges of Pharmacy and of Dentistry had approved the action of the Board in thus communicating with their graduates and students. Other pamphlets along sex hygiene lines are under course of preparation—Facts For Young Men, and Facts For Young Girls, being the titles of two of them. The Board has co-operated with the film shown under the auspices of the Canadian National Council.

As to Diagnosis and Treatment, the Department would make use of the provincial laboratories already established, and it was the intention to establish clinics in various centres—in close connection with the local Boards of Health. The choice of sites, to a certain extent, would be left to the local authorities. Where facilities already exist, such as hospitals,—these would be taken advantage of. The Board proposed to allow these clinics $1,000 for apparatus; $500 for a social service nurse; fifty cents for each out-patient suffering from Gonorrhea or Syphilis. One treatment per day would be paid for. Salvarsan would be supplied as soon as procurable. Hospitals would receive twenty-five cents per day for three months for each patient treated, whether in-door or out-door. Standard record forms would be furnished. $500.00 per year will be paid the venereal specialist in charge. This officer may be appointed by the hospital or local Board, but must be satisfactory to the Provincial Board. The social worker will be a graduate nurse and shall work full time. A clerk will be allowed if the clinic reaches an attendance of forty patients. There will also be a male orderly. All treatment shall be free. There shall be one night and one day clinic per week. There shall be separate clinic hours for the sexes, and separate hours for treating syphilis and gonorrhea. Monthly reports on forms supplied by the Board shall be forwarded to the Provincial Board. Municipalities shall be required to advance equal amounts to those granted by the Board. The nurse shall do follow-up work. Accounts shall be paid monthly. The Provincial Board may modify rules.

Laboratories will be established for the performance of Wassermanns and the complement fixation test for gonorrhea.

Investigation is to be made of prisoners. 688 Was-

sermanns were done at Burwash, 6.7 per cent. were positive. 116 were done at the Mercer Reformatory; 24.25 per cent. positive. A large majority of these girls are feeble-minded.

The closest co-operation will be sought with voluntary civil agenices. Changes will be made in the Act as occasion arises.

Two laboratories for diagnosis will be established in Northern Ontario. Clinics in the large Ontario cities will be established within a month—Hamilton, Windsor, London, Kingston, Ottawa; and possibly at Brantford, Fort William and Port Arthur; and possibly in St. Thomas, Owen Sound and St. Catharines. The smaller towns and rural districts constitute the most difficulty in respect of clinics—where everyone knows everyone else's business. About the only way will be to run the clinics in conjunction with health centres, where tuberculosis and welfare work are being carried on.

The medical men in charge of the clinics will meet once a year for discussion. Practitioners will be permitted to send their private cases to these clinics for examination; treatment may be carried on by themselves.

No scheme for prophylaxis has been advocated. The question as to whether medical men shall be paid for reporting venereal cases has not been settled. Assistants to the head will be appointed where necessary. The follow-up nurse shall report cases in which treatment is neglected and the patient becomes a menace to his family. So soon as the general scheme is under way an informant officer will proceed against the quacks. All medical men are strongly urged to take an interest in the work undertaken and in the social follow-up work along sex hygiene lines. Cases are to be reported by number; but if a patient neglects or refuses treatment his name will be returned to the M. O. H., and he will be looked after. The profession is asked to report any evasions of the Act to the M. O. H., and to co-operate with him and all voluntary organizations in the attempt to reduce the incidence of venereal disease.

Dr. Fitzgerald contrasted the attitude of the Academy to-day with that of two years ago, when they discussed the advisability of presenting the film version of "Damaged Goods," to the

Fellows of the Academy and second, to the public. The energetic secretary of the National Council for Combatting Venereal Diseases seemed to have "put it over" the new Government; and the excellent film. "The End of the Road," had been presented to large audiences. Seventeen thousand had attended in Toronto. In Windsor 11,000 saw it. Its education value was very great.

It is a very difficult matter to secure from those who are engaged in the treatment of venereal disease any adequate idea of the extent of it. One soon urgent duty of the Provincial Board of Health is to get some information on this point. Physicians, by reporting their case, will help a very great deal. Wassermann surveys ought to be conducted, as has been done elsewhere. The question of getting the Federal Government to continue its grant at the end of these three experimental years will depend largely on the demonstrations made that venereal disease is a very grave menace to public health. So we must have exact information—exact figures. These we have not at the present time. By the application of a new laboratory test it seems possible to obtain a positive re-action about twenty-one days after the symptoms of the disease have been first noticed.

Dr. Emerson J. Iron contributed a paper on A Syphilitic Clinic. The importance of syphilis on family life and upon the community at large required no particular emphasis to those present. The statistics available showed the disease to be on the steady increase If the State will take up the problem it will save in the end; the prevention of neuro-syphilis will lessen a large number of commitments to our asylums. In addition many lives were lost or blasted through the ravage of lues on the cardiovascular system, the eyes, the liver and other organs. Syphilis probably ranks largest among the killing diseases. The treatment of it cannot longer be relegated to some dark corner of a hospital. There should be plenty of bright airy rooms for the O. P. D. work and a certain number of beds in the hospital should be set aside for syphilitics needing in-door treatment. In 1919, in the Toronto General Hospital O. P. D., there were 329 new cases. Ninety-nine came in direct; eighty-three were referred by other branches of the O. P. D.; forty-nine by outside

doctors (ninety per cent. of these doctors were in the army); fifty-three were referred from the medical wards; twenty-eight from the Public Health officials and; seventeen by the social service agencies. "Blood trouble" brings many to the clinic. It is possible now to get at sources of infection, impossible before owing to the activity of social agencies.

In the management of a clinic for syphilis the efforts of the staff and nurses should be co-ordinated. They should keep in touch with the Department of Public Health. Such a clinic is best established in connection with a general hospital; as it is only in such a hospital that expert advice is obtainable. There were very few medicines required. Whether the clinic was run as a department of the O. P. D. or independently doesn't matter; the main essential being that a man be placed in charge who has a complete grasp of the problem. In addition to his knowledge of the disease *per se* he should also have a good knowledge of neurology and of general diagnosis. There should be a well-equipped laboratory with a dark-field microscope, and a serological laboratory, the results of whose work should be controlled by clinical examinations, seeing that Wassermann's might be negative in certain manifestations of the disease. Specimens for the pathological museum should be collected. Lantern slides and drawings should also be available. Some of the beds set aside in the hospital should be for private patients. All patients should have a general systematic examination, which should be recorded typewritten; and also progress notes made. The social aspect of the cases was important; the source of infection should be sought for. The mental conditions of all patients should be made; many are defective. Of sixty-one girls examined at the T. G. H. clinic, forty-nine were diagnosed as defective—eight were insane (not general paresis), four only were normal. A routine examination would probably filter out more who should have institutional treatment.

Social service nurses are indispensable. The less compulsion used the better. The home visits give an intimate idea of the life. By slow education conditions improve. The social service nurse at the T. G. H. made over 700 visits last year. Plenty of literature should be provided; it is eagerly read. A re-

search department is important. New drugs and methods are constantly advertised and must be thoroughly tried. Patients should be interviewed at each visit and routine treatment kept up; symptoms should be carefully noted and interpreted; and the individual's general health observed. The treatment should be quiet and painless. A lumbar puncture should be made in every case. An eager question by the patient is, am I still infectious? This is hard to answer. The greatest hope for the elimination of syphilis is the better education of the medical profession. The medical officers of the army are well trained. In diagnosis, the medical attendant should not wait for the rash, but should endeavor to spot the organism by examination of a smear under the microscope.

LINE UPON LINE—PRECEPT UPON PRECEPT

The Academy of Medicine, Toronto, is drawing up a new code of ethics. The committee having the matter in hand have been studying the code of the Canadian Medical Association. The committee points out that in this code there is no reference to penalties. The principles laid down in the code of the C. M. A. are appropriate. The duties and obligations of men may be considered under three headings—religious, legal and social. The religious cover those acts which one must do or refrain from doing, as laid down in the moral law, usually regarded as of Divine origin. Under the legal obligations came (1) The obligation to use reasonable skill and care in the treatment of the sick; to report infectious and venereal diseases and the making out gratis of birth and death certificates. The medical man must refrain from felonious misdemeanours and from conduct that is infamous in a professional respect. He must keep secret anything he has learned in the course of his professional duties except in a court of law. Failing to exercise reasonable skill in his profession, or should he divulge a professional secret he is liable to a fine. The giving of untrue certificates enabling an unregistered person to prac-

tise, advertising or sanctioning the same, drunkenness and adultery come under the ban.

Medical men may take pay for giving evidence in a court of law, for giving medical certificates, as for insurance. They are exempted from serving on juries.

The codes of the C.M.A. and the Ontario Medical Association were adopted from the ethical code of the American Medical Association nearly 50 years ago; and have not been revised since. The A.M.A. has revised a number of times (in 1912 the last), but only in minor details, excepting the articles dealing with the obligations of patients and those of the public to the profession, which have been dropped.

The committee recommends that every medical man associate himself with the local provincial and dominion medical society; the formation of boards of reference for the settlement of disputes between physicians on questions of conduct. Paragraphs are devoted (1) to the duty of specialists to whom patients are referred; (2) regarding further attendance on patients after consultation; (3) to the duty of hospitals and staffs to physicians whose patients are taken and treated emergently. In respect to No. 3 the committee feels that the family physician should be treated by hospitals and their staffs as they would be by a consultant. The committee suggests that operating surgeons should endeavor to make the patient and his friends realize that a fee is due the family physician for his assistance previous, at, and after the operation. Medical men ought to encourage and recognize pharmacists who pay careful and special attention to dispensing of prescriptions. There ought not to be any secret division of fees.

THIRTEENTH ANNUAL MEETING OF THE ACADEMY OF MEDICINE, TORONTO

The thirteenth annual meeting of the Academy of Medicine was held in the Academy Building, 13 Queen's Park, on Tuesday evening, May 11th.

The following officers and members of council were elected for the session 1920-21: President, Dr. J. H. Elliott; Vice-

President, Dr. Robert T. Noble; Honorary Secretary, Dr. Frederick C. Harrison; Honorary Treasurer, Dr. J. H. McConnell; Past President, Dr. Edmund E. King; elective members of Council, Drs. W. H. Harris, W. A. Cerswell, Geo. S. Young, H. B. Anderson, F. W. Marlow, N. A. Powell, A. Primrose, C.B.; Chairmen of Sections: of Medicine, Dr. J. Harris McPhedran; of Surgery, Dr. C. H. Gilmour; of Pathology, Dr. G. S. Strathy; of Ophthal. and Oto-Laryn., Dr. Perry G. Goldsmith; of State Medicine, Dr. R. D. Defries; of Pediatrics, Dr. Geo. R. Pirie; of Obstetrics and Gynecology, Dr. W. B. Hendry.

FORTIETH ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION

Toronto, May 25th, 26th, 27th and 28th, 1920

Just as this issue of the Journal is being mailed, the fortieth annual meeting of the Ontario Medical Association will be in session and, judging from the work that has been in progress during the past two months by the different committees, bids fair to excel in point of interest and instruction previous gatherings of the association.

During the past two months the members of the Programme Committee have assiduously endeavored to secure the co-operation, both at home and from abroad, of outstanding members of the profession to take part in the scientific programme.

In referring to the list of speakers and their subjects, here given, it will be readily recognized that an exceptionally well balanced programme is assured.

Now that the medical profession is largely rehabilitated following the past five years of greatly depleted ranks at home, the Ontario Medical Association will undoubtedly have a most enthusiastic and representative gathering at its Fortieth Annual Meeting.

The following comprises the programme which, with possibly a few changes, will be carried out:

Section of Obstetrics and Gynecology.

Dr. Thos. S. Cullen, Baltimore, Professor of Gynecology, Johns Hopkins. "Distribution of Adenomyomatá containing Uterine Mucosa."

Dr. B. P. Watson, Toronto. "Induction of Labor."

Dr. E. K. Cullen, Detroit. Title to be announced.

Dr. W. W. Lailey, Toronto. "Complement Fixation Test (in Gonorrhea in Female.)"

Dr. G. G. Copeland, Toronto. "The Value of Rectal Examinations in Obstetrics."

Dr. C. J. Currie, Toronto. "Post Partum Temperatures."

Section of Medicine.

Dr. E. C. Rosenow, Mayo Foundation, Rochester. "Studies on Influenza."

Dr. A. W. George, Asst. Inspector, Dept. of Roentgenology, Tuft's College Medical School, Boston. "X-ray as an Aid in the Interpretation of Symptoms Referable to the Biliary System."

Dr. Chas. F. Martin, Prof. of Clinical Medicine, McGill University. "Psychiatry, from the Standpoint of the General Practitioner."

Dr. J. W. Crane, Dept. of Pharmacology, Western University, London. "Dietetic Treatment of Infections."

Dr. A. H. Caulfield, Clinician to Dept. of Medicine, Toronto University, and Dr. G. E. Richards, Radiologist, Toronto General Hospital. "A Comparison Between the Interpretation of the Findings in Chronic Pulmonary Lesions in Clinical and Stereo-Roentgenographic Examination."

Dr. J. G. Fitzgerald, Prof. of Hygiene, University of Toronto. "Analysis of Diphtheria Deaths in Toronto."

Dr. George Pirie, Asso. Attending Physician, Hospital for Sick Children, Toronto. "Vomiting and Constipation in Infancy."

Dr. Jabez H. Elliott, Physician Chest Clinic, St. Michael's Hospital, Asst. Physician, Chest Clinic, Hospital for Sick

Children, Toronto. "Pregnancy a Menace to the Tubercular Mother."

Dr. Norman B. Gwyn, Clinician to Dept. of Medicine, Toronto University: "Clinical Side of Empyema in Influenza."

Dr. J. E. Kidd, London, Ont.: "Acidosis in Influenza Pneumonia."

Dr. W. R. Campbell, Clinician to Dept. of Medicine, Toronto University: "Renal Functional Tests for the General Practitioner."

Dr. E. A. Morgan, Asso. Attending Physician, Hospital for Sick Children, Toronto: "Diarrhea in Infancy (General Management and Treatment)."

Dr. N. M. Keith, Clinician to Dept. of Medicine, University of Toronto: "The Treatment of Renal Disease in regard to the Newer Functional Tests."

Dr. G. A. Davis, Toronto: "Interval Methods of Feeding."

Dr. D. King Smith, Dept. of Dermatology, Toronto General Hospital; Dr. Emerson Trow, Asst. in Clinic of Diseases of Skin, Toronto General Hospital and Dr. H. A. Dickson, Clinical Asst. Dept. of Skin, Toronto General Hospital: "Presentation of some interesting cases of Diseases of the Skin."

Dr. C. H. Robson, Anes. Hospital Sick Children, Toronto: "Intratracheal Anesthesis with Exhibition of Apparatus."

Dr. R. D. Defries, Dept. of Hygiene, University of Toronto: "Viability of the Vaccine Virus."

Section of Surgery.

Dr. George D. Stewart, Prof. of Surgery, University and Bellevue Hospital Medical College, New York: "The Gastric Hypermotility associated with Diseases of the Gall Bladder, Duodenum and Appendix."

Dr. N. W. Percy, Asso. Professor of Clinical Surgery, McGill University, Montreal: "Technique of the Transfusion of Whole Blood and Its Value in Association with Surgical Procedures in the Treatment of Pernicious and Other Anemias."

Dr. Edward B. Archibald, Lecturer in Clinical Surgery, McGill University, Montreal: "Pancreatitis."

Dr. James Masson, Mayo Clinic, Rochester, Minn.: Subject to be announced.

Dr. Emerson Hodgins, London, Ont.: "Tumors of the Brain."

Dr. Wallace Scott, Toronto: "Fractures of the Skull (their diagnosis and treatment.)"

Dr. John R. Parry, Hamilton: "Surgical Treatment of Empyema."

Dr. S. M. Hay, Toronto: "Diagnosis of some Common, Acute Abdominal Conditions."

Dr. E. Stanley Ryerson, Toronto: "Relation of Pathological Conditions of the Gall Bladder to Treatment."

Dr. D. E. Mundell, Kingston: "Tendon Transplantation."

Dr. W. H. Harris, Toronto: "Conditions Simulating Gastric Ulcer."

Dr. Roscoe Graham, Toronto: "Significance of Pain in the Right Iliac Fossa."

Dr. Ed. D. Robertson, Toronto: "Treatment of Ununited Fractures."

Dr. Robert McComb, Toronto: "Perineal Prostatectomy."

CAMPAIGN AGAINST VENEREAL DISEASES

The Provincial Board of Health has started an organized campaign against Venereal Diseases. This campaign is being developed along three lines:

(1) Free Diagnosis of cases.
(2) Treatment of the infected.
(3) Education of the infected and the non-infected.

1. Free laboratory diagnosis of V. D. cases is now provided at the Board's laboratories at No. 5 Queen's Park, Toronto, Queen's University, Kingston, the Institute of Public Health, London, and the City Hall, Fort William. Two additional laborties will be established in New Ontario this year. Containers and slides for samples of blood and smears will be available for all physicians at any of these laboratories. You are invited to make use of their facilities.

2. *Treatment.*—Clinics for free treatment of Venereal Diseases will be established in the larger cities and towns in Ontario. The Board has provided a generous sum for their establishment and upkeep. These clinics will be in charge of capable medical specialists so that efficient treatment may be available for all. These clinics will be at the disposal of medical men for clinical diagnosis in doubtful cases. Special "follow up" work along social service lines will be carried out by the Local Boards of Health by means of public health nurses.

3. *Education.*—At the same time education of the general public as to the danger of Venereal Diseases will be carried on by means of bulletins, pamphlets, advertising matter of various kinds, films, etc., this part of the work being done in conjunction with the Canadian National Council for combating venereal diseases.

WASSERMANN REACTION

The Laboratory of the Department of Public Health, City Hall, will make the Wassermann test twice weekly, every Tuesday and Friday.

Reports will be mailed on Wednesday and Saturday. For obvious reasons no reports will be given by telephone.

After the above mentioned date, outfits for taking specimens for this test will be obtainable at all of the public hospitals and at the usual Culture Stations, about fifty-five in number. No charge will be made either for the outfit or for the test. Specimens will be examined, however, only if the information asked for on the data card in each outfit is supplied in full. This information is for Laboratory and statistical purposes, and the utmost secrecy will be observed. For the general information of physicians, it is pointed out that at some fifty-five drug stores, conveniently located throughout the city, a list of which is enclosed herewith, the following may be obtained. Diphtheria Outfits, Sputum Outfits, Typhoid Outfits, Ophthalmia (G. C.) Outfits, Wassermann Outfits, Pertussis Vaccine, Diphtheria Antitoxin.

All the public hospitals carry the above, and the following in addition:—Tetanus Antitoxin, Anti-Meningitis Serum, Smallpox Vaccine, Typhoid Vaccine, Influenza Vaccine.

No charge is made for any of the foregoing materials or for any of the tests made by this Laboratory.

Personals

QUEEN'S MEN APPOINTED

In the re-organization of No. 3 District Medical Units, Lt.-Col. W. T. Connell, of Queen's University, Kingston, is to command No. 7 General Hospital, and Maj. Thomas Little, also of Queen's, will take charge of No 9 Sanitary Section.

DR. ANGLIN'S NEW POST

Dr. Wm. G. Anglin has received word from the Civil Service Commission that he has been appointed Surgeon of Kingston Penitentiary, in succession to the late Dr. Robt. Hanley. Dr. Anglin, after several years' practise, went overseas with Queen's Hospital. For the past two years he has been Medical Examiner for the Pensions Board in Kingston military district.

Dr. G. R. Reid, formerly of 192 Bloor Street West, has resumed practice at 56 College Street. He will confine his practice to radiography and radiotherapy.

Dr. H. Ernest Paul, 82 College St., announces to the medical profession, that he is limiting his practice to the diagnosis and treatment of diseases of the Genito-Urinary system—Urology in the male and female.

Lt.-Col. G. E. Kidd resigned a few weeks ago, as Professor of Anatomy at Queen's University, Kingston. Dr. Kidd had served overseas with No. 7 General Hospital, which was organized by Queen's.

IMPORTANT APPOINTMENT FOR DR. MACMURCHY

The announcement made from the Capital of the appointment of Dr. Helen MacMurchy, of Toronto, as Director of Child Welfare in the Federal Department of Health has met with general approbation. Dr. MacMurchy, who is perhaps one of the most able women in public affairs in the Dominion at the present time, has been since 1913 inspector of the feeble-minded and assistant inspector of prisons and public charities in the Province of Ontario, a position which she has filled with a distinction which has won for her an international reputation. In 1914, together with Professor Adami, then of McGill University, Dr. MacMurchy represented Canada at the Imperial Child Welfare Conference in England, and the following year was appointed Inspector for Auxiliary Classes. During the war she did valuable work in training nurses for Orpington Hospital and at times, owing to the illness of other officials, was the only Inspector for the Medical Health Department. In January of the present year the announcement was made that Dr. MacMurchy had been appointed the third member of the Board of Medical Practitioners named by the Provincial Secretary to examine inmates of Industrial Homes for Women and Girls.

Dr. MacMurchy is a Torontonian by birth and is the daughter of the late Archibald MacMurchy for many years rector of the Jarvis Street Collegiate Institute. After a brilliant career at the University of Toronto she attained the degree of M.D. in 1901, which was followed by a further course at the Johns Hopkins Hospital at Baltimore, where she had the privilege of attending the lectures of the late Sir William Osler. On her return to Canada Dr. MacMurchy devoted herself to general practice and was for a time on the house staff of the General Hospital. Her present important appointment is one which both by temperament and training she is admirably suited to fill.

Obituary

DR. BARTON DEAD

Dr. Samuel G. Barton died at his home, 146 Balliol Street, Toronto, on April 21st, from heart trouble, after an illness of three weeks. The late Dr. Barton was born at Athlone, Ont., fifty-eight years ago, and came to Toronto when he was four years old. He graduated from Toronto University in 1886, and practised in the city until four years ago, when he moved to Dundas. He returned to Toronto just a year ago. Dr. Barton is survived by his wife and one daughter.

DEATH OF DR. CHARLES O'REILLY

Dr. Charles O'Reilly, who for thirty years was Medical Superintendent of Toronto General Hospital, Gerrard Street East, died at his home, 229 St. Clair Avenue West, on May 3rd, in his seventy-fourth year. There are few medical practitioners of the present day, who have not at one time counted Dr. O'Reilly as a friend, a large proportion of them having been students of his when going through their course in Medicine either at Toronto School of Medicine or Trinity Medical School. Dr. O'Reilly was universally popular and until the date of his retirement was looked upon as one of the most up-to-date hospital authorities in the Dominion. He was born in Hamilton in 1846, of a very old Irish family. He received his early education in Hamilton, later entering on the study of medicine at McGill University, Montreal, whence he graduated with the degree of M.D.C.M. in 1867. He then became resident physician at the Hamilton City Hospital, leaving that Institution in

1875, to take charge of Toronto General Hospital, from which post he retired just fifteen years ago. Dr. O'Reilly was a member of the British Medical Association, the Canadian Medical Association, the Ontario Medical Association, and many other organizations.

Dr. James E. Sprague, a prominent medical practitioner and writer, member of several fraternal organizations, for more than twenty-five years License Commissioner for North Hastings and for many years School Trustee in Stirling, died at Belleville, aged seventy-five.

The Physician's Library

The Sexual Disabilities of Man and Their Treatment and Prevention by Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary, formerly House Surgeon to the Male Lock Hospital, London. Fourth edition, revised and enlarged. London: H. K. Lewis & Co., Limited, 136 Gower Street, W. C. 1920. Price 7/6 net.

This is a subject regarding which comparatively little has been written, authors in many cases feeling that the matter touched upon is more or less tabooed. We are, however, glad that Dr. Cooper has presented the profession with a fourth edition of his book, as there is no doubt that too little time is devoted to the question by our teaching faculties and such a book as this makes up to a large extent for this oversight. The book is divided into three parts—Sterility, Impotence and Prevention. The price of the book is most reasonable and full of interest.

The Almosts. A study of the Feeble-minded, by Helen MacMurchy, Boston and New York: Houghton Mifflin Company. The Riverside Press, Cambridge. Toronto: Thomas Allen, 215-9 Victoria Street, 1920.

It has been with a great deal of pleasure that we have perused "The Almosts" coming as it does from the pen of our most esteemed collaborator, Dr. Helen MacMurchy, of Toronto. That the authoress has distinguished herself in her special study and has had a vast experience among, and made an intricate investigation of, that unfortunate class known as the feeble-minded, there is no question and no one is better able to give, not alone the profession, but the public the benefit of her experience. There is no more important work being done to-day than that among

these suffering from a mentality below par and to the credit of Dr. MacMurchy, be it said, that she has been one of the leaders in this splendid line of work. We congratulate her upon her book and we bespeak for it the reception it so heartily deserves.

The Nose, Paranasal Sinuses, Nasolacrimal Passage-Ways, and Olfactory Organ in Man. A Genetic, Developmental and Anatomico-Physiological Consideration, by J. Parsons Schaeffer, A.M., M.D., Ph.D. With 204 illustrations, of which eighteen are in color. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $10.00 net.

It is only in comparatively recent years that the study of the minute anatomy of the nose has received very considered attention. The embryology, development and anatomy has been studied mostly in Europe, but nowhere has more careful painstaking and more accurate work been published than by the author at Cornell University, Yale and Jefferson Medical College. This book, one of the best hitherto published, gives the results of the author's personal work and is the result of years of study. The illustrations which are of the highest order are based on preparations, reconstructions and dissections by the author and reproduced either by him or under his directions. This work contains a wealth of information for the serious student of rhinology.

The Practical Medicine Series. Comprising eight volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A. M., M.D., volume II: General Surgery, edited by Herbert J. Ochsner, series 1919, Chicago. The Year Book Publishers, 304 South Dearborn Street. Price of this volume $2.50. Price of the series of eight volumes $10.00.

The publishers intend these books primarily for the general practitioner, but the volumes arranged as they are, each dealing with a special subject, makes it possible for the student of or

specialist in any particular department to secure the volume containing the material in which he is especially interested. The editor of the volume under review has collected a rich amount of material that has been produced by the splendid surgeons of the allied armies. The entire field of war surgery has been considered, as has been many phases of industrial surgery. The surgery of all the various regions forms the bulk of the book, while that of shock, gas, gangrene, tetanus, malignant tumors are given separately. Specially interesting chapters deal with amputations, wound healing, operative technic, infected wounds, asepsis and antisepsis, new instruments, X-ray, radium-therapy and anesthetics. These eight volumes of several hundred pages (at $10.00) filled with the most modern ideas and methods in the various branches of scientific medicine should be on every doctor's shelf.

Industrial Medicine and Surgery, by Harry E. Mock, M.D., F.A.C.S., Assistant Professor of Industrial Medicine and Surgery at Rush Medical College. 846 pages with 210 illustrations. Philadelphia and London: The W. B. Saunders Company. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. Price $10.00 net (cloth). 1919.

In this volume Dr. Mock, has made a fine contribution to the subject. We have perused the volume with much interest. It is a most practical work and will be read with profit, not only by industrial doctors and social welfare officials, but by the rank and file of doctors and nurses. The author shows exclusively that it does pay employers to look after the health of their employees. How this is done by many of the larger American industrial concerns is shown in this book. The methods adopted for preventing accidents and disease come in for well-merited prominence. The importance of prompt and thorough treatment of minor accidents and incipient infections—local and general—is emphasized. The subjects of feeding and housing employees, of proper home and shop sanitation of recreation—all come in for comment. The subject of ventilation, we should have liked to have been more elaborated; particularly with re-

gard to how best secure the proper degree of humidity and air movement. The various plans shown are very instructive; in one, however, that showing one of a combined employment, cafeteria, and Medical Department. Some of the legends are quite indistinct. On the whole, though, we have nothing but encomiums for Dr. Mock's effort. It is one of the bridges, so badly needed at the present time, to span the chasm between labor and capital. The work should have a big sale.

The Diseases of Infants and Children, by J. P. Crozer Griffith, M.D., Ph.D., Professor of Pediatrics in the University of Pennsylvania. Two octavo volumes totalling 1542 pages, with 436 illustrations including twenty plates in colors. Philadelphia and London: The W. B. Saunders Company. 1919. Canadian Agents: The J. F. Hartz Co., Limited, Toronto. Price, cloth, $16.00 net.

One virtue, among many of Dr. Griffith's is its balance. It covers the whole field of infantile and childhood morbidity. One finds out that their are hundreds of other conditions beside gastro-intestinal disturbances which the average practitioner needs to know about. The discussion of the varied ailments is full enough for general use, but not too full. Entiology, pathology, symptomatology, and—most practical of all—treatment receive proper and relative emphasis. Many cases are cited and many illustrations given bearing on treatment, which will appeal to the average work-a-day physician. One enjoys picking up either volume and reading by the hour. We know of no better criterion of a medical or any other book.

Henry Mills Hurd. The First Superintendent of the Johns Hopkins Hospital, by Thomas Stephen Cullen. The Johns Hopkins Press, Baltimore, Md. 1920. Price $1.50.

This is an appreciative review of the life and work of an alienist and hospital authority of international reputation by one of his former resident officers, and now Professor of Gynecology in Johns Hopkins, Dr. Thos. Cullen, an old and dis-

tinguished Toronto boy. Beside sketching Dr. Hurd's career through childhood, school-life, his years among the insane at Pontiac, Michigan and amid that galaxy of stars at the Hopkins Hospital during its formative years, the biographer quotes freely from Dr. Hurd's reports and scientific contributions. The reading of these pages shows how laborious and painstaking, Dr. Hurd was; they also show a mastery of the subjects dealt with and the matter is presented with a fine literary finish. Dr. Cullen is to be congratulated on the publication of this volume. It will be welcomed by all general and state hospital workers; but particularly by the host of friends of Dr. Hurd, who have found him always a highly cultured Christian gentleman.

Wheeler's Handbook of Medicine by William R. Jack, B.Sc., M.D., F.R.F.P.S.G., Physician to the Glasgow Royal Infirmary. Sixth edition. Edinburg: E. & S. Livingston, 17 Teviot Place. 1920. Price 12/ net.

This is the sixth edition of a well-known text book of medicine. It is not recommended for the use of the general practitioner, owing to its brevity, but is especially of use to the medical student in reviewing for examinations. For this purpose it will be found to cover fairly thoroughly the general field of medical diseases.

Diseases of Women, including abnormalties of pregnancy, labor and puerperium. A clinical study of pathological conditions characteristic of the five periods of woman's life, presented in one hundred and seventy-three case histories. By Charles M. Green, A.B., M.D. With twelve full page plates, one cut and twenty-five charts in the text. 487 pages. Postpaid $6.00. Boston: W. M. Leonard, publisher. 1920.

In this very interesting and instructive book, the author has adopted the rather unusual method of teaching by case histories, and the material presented should be of service to teachers and students, as well as to graduates who would like to review their

knowledge of pathological obstetrics and of the diseases of women and who may not be able to take post-graduate courses of study.

The book is divided into five sections, dealing with conditions of Childhood, Adolescence, Maturity, the Climacteric and Anility. In each section the author discusses briefly and concisely Functional Disorders, Malposition, Infectious Traumatosis and Neoplasms, reserving the main part of his space for his illustrative cases. These are indeed worth careful perusal. Each case is presented clearly, shorn of irrelevant details and besides diagnosis, treatment and result, there is usually some very pithy comment on the general conduct of the case and reference to comparative instances. The photographic plates, although not numerous, are of excellent quality.

This second edition of Professor Green's work must be commended as a valuable addition to medical literature.

A Practical Medical Dictionary of words used in medicine with their derivation and pronunciation, including dental, veterinary, chemical, botanical, electrical, life insurance, and other special terms; Anatomical tables of the titles in general use, and those sanctioned by the Basle Anatomical Convention: Pharmaceutical Preparations, Officials in the U.S. and British Pharmacopoeias, and contained in the National Formulary; Chemical and Therapeutic information as to Mineral Springs of America and Europe, and comprehensive lists of synonyms. By Thomas Lathrop Stedman, A.M., M.D., Editor of the "Twentieth Century Practice of Medicine," of the "Reference Handbook of the Medical Sciences," and the "Medical Record." Fifth revised edition; illustrated. New York: Wm. Wood & Co. 1918.

The preface to this book explains the author's feelings when he undertook to write it, and draws attention to the peculiar differences that have taken place in the use and spelling of the words in everyday use by medical men.

The system works out very well, and the arrangement of the subjects will be easily understood. The dictionary itself seems

to be excessively complete, every word used in medicine that was known at the time that this book was published is to be found on its pages; and every use that medical terms can indicate seems to have been thought out and explained; the illustrations are many and unusually good for a book of this type; the lettering is clear and everything relating to the varieties of the form of disease, is carried out in such a way that the name of the disease itself remains prominently in the mind of the reader throughout the description of its different varieties.

This is a large and handsome volume and is so bound that it is excessively easy to handle; wherever it is opened it stays open. It is, in fact, one of the most perfect Medical Dictionaries that the writer has ever seen, one that should be on the table or in the library of every man who has been in practice for some years, as they will find in its pages not only the meaning of some new word, of which there are now so many, that is for the time confusing, but there is a full description given of the derivation and proper pronunciation of these words. It is also a book that every young man should have, as it refers extensively to diseases which are called after the man who first wrote about them, or whose name years ago became identified with them from the fact that his was the most advanced opinion on one particular subject.

There are many other matters too numerous to mention, i.e., weights and measures, symbols, stethoscopic abbreviation, comparative temperature scales, comparative metric and English barometer scales, the chemical elements, etc., etc.

Food for the Sick and the Well. How to select it; how to cook it, by Margaret J. Thompson, R. N., Yonkers-on-Hudson, New York, World Book Company, 1920.

Every line in this book contains a truth which has been proved over and over again by the severe test of practical experience. It discusses the relation of food and health, describes the balanced menu and is filled with many excellent recipes.

COMMERCIAL DEPARTMENT

PRINCE'S LIMITED, AN INVESTMENT OF MERIT

It is often alleged that, when it comes to investing money professional men are very frequently thoughtless. Whether the charge is just or not, it is at least safe to say that a great many of the so-called investments of men of the professions are carelessly made—a fact which may be fully attested by examining the estates of deceased practitioners and classifying the securities they have left behind.

It is regrettable that this should be the case, particularly as there are so many investments offering that possess the merit of reasonable security and ample return. For one of the highly speculative propositions of irresponsible promoters that eventually proves profitable, there are a large proportion that go bad, whereas a sensible investor, whose study of the situation is backed by the experience and information of a reputable investment house, can scarcely make a mistake in his purchases.

As an example of the latter class of security take the preferred stock of Prince's Limited, Toronto's new high-class restaurant, which will open its doors to the public in the near future. A discriminating investor will note in the first place that here is a business proposition catering to one of humanity's basic needs. People must eat, while, by reason of the impossibility of getting help, the tendency is all away from home cooking to tea room, pastry shop and restaurant service. In other words, the purchasers of the product of Prince's Limited are a rapidly growing army who will flock to its various departments in droves the minute the place is thrown open.

Then consider location. Prince's Limited is situated on the west side of Yonge Street almost immediately north of the intersection of King Street in what may well be regarded as one of the best, if not the very best, locations in the city.

Finally, having jotted down all these favorable conditions, the investor inquires as to the exact nature and scope of the undertaking in order to make dead sure that it will be a popular venture. He learns that the management have completely

metamorphosed the building they have purchased and adopted a most pleasing and attractive scheme of decoration and furnishing throughout. They have installed on the top floor, where conditions of light and air are of the best, the most complete bakery and ice-cream plant that could be conceived. They have located on the third floor their main kitchen with the latest and most economical equipment obtainable. They have installed supplementary kitchens on the second, main and basement floors, the whole connected by a wonderful system of dumb waiters for the rapid handling of food to all departments. In short, the producing and serving end of the business has been arranged with an eye to the most efficient and sanitary service.

The management of Prince's Limited, will be in the hands of an experienced New York manager and the service will be based on the latest methods of the most successful institutions in American cities. Taken in its entirety Toronto's new resort is most complete, serving in its various departments all possible needs and maintaining throughout a high standard of quality and efficiency. It bears every ear-mark of unqualified success and the investor who has made a careful study of its various features will appreciate the value of the securities now offered. The preferred shares at par yield an assured seven per cent. per annum, while the common shares which are given as a bonus have most attractive possibilities in the way of enhanced value and high interest return.

ALL STEEL REFRIGERATOR

J. Samuels, Toronto, recently placed on the market their new all steel refrigerator. It presents a neat appearance with its white porcelain enamelled-finish, inside and out. It has rigidity and is finished with brass, nickel-plated hardware, heavy steel ball-bearing casters, etc. The makers consider that they have overcome minor faults in domestic refrigeration and describe their new product as follows: The refrigerator is made with very few seams and these are double seamed and soldered (no riveting), thus preventing any possibility of rusting. They claim that the construction of the walls with their insulation of

two layers of linofelt and the three-quarter-inch dead air space ensures the minimum loss of cold air. Added to this is the construction of the drip pipe and trap. The trap is situated on top of the drip pipe, acting in the dual capacity of a trap to catch dirt and to prevent warm air from coming in from outside. This trap and pipe, as well as the ice box, are easily removed for cleaning purposes. For the reason that it is essentially sanitary physicians can safely give this refrigerator their endorsement.

OLEUM RICINI

Castor Oil is one of the oldest drugs of which we have knowledge; indeed, the time of its first use is in the unrecorded darkness of antiquity.

The Palma Christi, from the beans of which it is expressed, grows in Greece, Egypt, West and South Africa, India, Polynesia, Tahiti, Samoa, Zanzibar, West Indies, Abyssinia, Nubia, Florida, Mexico Paraguay and Argentina.

Ol. Ricini has been put to many and varied uses—illumination, lubrication, food for silk worms, in paper-making, for leather dressing, in setting Turkey red dye, in sacrificial and other idolatrous rites, as an ointment, and as a laxative.

It was used as an ointment by the Egyptians, a thousand years before the time of Christ, and for the lighting of railroad trains in India, as recently as 1895.

Rather an interesting drug this, taking into consideration its ancientness and wide range of usefulness to man. No other drug so long known is in present day use.

Significant of its utility, and of man's appreciation of its worth, is the fact that the world's production of castor oil increases from year to year, and is greater at the present time than at any other in history.

Nor is this uniform increase taken up in mechanical and technical uses alone; there is more castor oil used as a medicine to-day than ever before.

As mechanical facilities have grown, and chemical processes improved, there has been steady progress in the betterment of the product; the refined castor oil of a dozen years ago was little

better than that used for lubrication to-day; and our medicinally fine oil of the present is so free from those disagreeable qualities which characterized the product in former years, that one unfamiliar with the drug would be tempted to doubt its identity.

Castor oil for human use must be kept with the greatest care, in order to avoid any degree of rancidity; it is practically impossible to preserve its purity and prime condition in bulk, if exposed at all to the atmosphere; prone to become rancid at all times, it should never be stored in the convenient but dirty pump can, or the ordinary stock bottle, with its loose stopper. Yet, these are the containers in which castor oil is usually kept in the drug stores. The most superficial examination of their contents reveals a change in color from clear to yellow, and, in odor, from an oily to a heavy, rank, acrid pungency. Under the distinguishing name "Laxel," the finest castor oil, agreeably flavored, may be had, in bottles of three oz. and six oz. capacity, at any pharmacy.

THE CARE AND FEEDING OF INFANTS

Suggestions calling for medical treatment have purposely been avoided. Conditions which demand such advice should be brought immediately to the attention of the family physician.

Nature intended that child should live, but its survival is not the only thing to be considered. To thrive properly and to grow into robust and healthy maturity, an infant must have proper food, suitable clothing, and receive proper care which includes keeping an infant at all times sweet and clean, and furnished with an abundance of pure, fresh air.

The foregoing being carefully observed, and the food intelligently prepared and administered, infants fed upon Borden's Eagle Brand Condensed Milk usually thrive better, and show a better physical development than when fed upon any other substitute for Nature's supply.

Records carefully obtained and tabulated, prove that more infants are reared successfully each year upon Borden's Eagle Brand Condensed Milk than upon all other infant foods combined—a statement fully corroborated by thousands of unsolicited testimonials received annually from physicians and grateful parents.

Borden's Eagle Brand Condensed Milk is made from carefully selected raw milk, which is obtained under ideal sanitary conditions and surroundings, from healthy cows, that are kept in perfect health by frequent and thorough veterinary inspection. The milk is condensed in the most modern and sanitary factories, where cleanliness reigns supreme, by Gail Borden's original process invented in the early 50's, and which process, up to the present time, has never been improved upon.

Borden's Eagle Brand Condensed Milk is a safe, wholesome, and complete food, having the added value of convenience and economy, together with simplicity of preparation. It is always uniform in composition and highest in quality, offering, when properly diluted and administered, a clean, safe, easily digested and readily assimilated infant food, surpassed only by Breast Milk.

A REAL DARK ROOM AND VIEWING LIGHT

The Victor Lu-mi-num dark room and viewing light is the solution to every shortcoming heretofore contended with in dark room lamps. Why!

1. Perfect universal adjustment—the only lamp that gives the quality and quantity of light wanted, where wanted.
2. Every adjustment can be made with one hand.
3. Two lamps in one—dark room lamp or negative examination light. Change from one to the other instantly.
4. The only lamp made that has absolute light control.
5. Made of aluminum, cannot rust, cannot corrode, cannot warp, cannot be damaged by chemical solution. No paint or enamel to peel off.
6. Absolutely light tight. The first real safe light on the market.

This light is procurable through the J. F. Hartz Co., Toronto.

THE FARMER IN POLITICS

The awakening of the farmer to a sense of his political responsibilities and opportunities is a sign of the times in Canada. It is now realized that the agriculturist is capable of forming his own opinions on the important questions of the day. President Wilson pointed out some time ago that "A Western Senator often is more useful than his Eastern colleague, because sometimes he chews 'Virginia leaf'." Chewing tobacco helps men to use their brains.

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The Canadian journal of medicine and surgery

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& Medical
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